American Aviation

The Independent Voice of American Aeronautics

OCTOBER 15, 1944

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DETROIT

Legislative Overhauling Needed

Fortnightly Review

AS THE United States moves ahead rapidly into its role as a leader in the development of postwar international air transportation, it might be well to re-assess our regulatory government agencies to determine their fitness to handle our foreign aviation problems.

American Aviation was among those who aided in the passage of the Civil Aeronautics Act of 1938 in the belief that a quasi-judicial regulatory body and a permanent legislative agency for aviation was badly needed. By and large the Civil Aeronautics Board and the Civil Aeronautics Administration have not done too badly, even considering the Hinckley-blessed maneuver of removing CAA's independence and placing it under the Department of Commerce several years ago.

But do the CAB and CAA measure up to our postwar needs in civil aviation? There are doubts, especially in the international field.

The CAA in its promotional, airways control, airworthiness, and other activities, is basically sound for domestic aviation provided it does not become so bureaucratic that it lacks flexibility and sound administration. Certainly the civil air regulations must be simplified to a great degree, and CAA chiefs must get over the idea that they, and they alone, know all about aviation. But by and large there is nothing fundamentally wrong with CAA that cannot be corrected by legislative amendments and personnel upheavals.

As for the CAB, the record has been fair. After a very sluggish and procrastinating start in 1938, the regulatory body moved ahead with about as much

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Fairchild V. P., Director

Myron B. Gordon, formerly vice president and general manager of Wright Aeronautical Corp. and a vice president of Curtiss-Wright Corp., has been elected a director and vice president of Fairchild Engine and Airplane Corp.

Late Bulletins

Airlines Get 26 Planes

The Munitions Assignment Board —Air has allocated the final 26 transport planes to the airlines, completing the quota set up in President Roosevelt's 2nd directive which increased the total number of planes to be made available for airline use from 200 to 300. The allocations are: EAL 5, UAL 5, TWA 5, American 4, PCA 3, Braniff 1, Delta 1, Northeast 1, WAL 1.

DPC Plants in Demand

RFC reports that of 100 telegrams sent to plants directly or indirectly engaged in aviation manufacturing, 56 expressed a definite desire to enter negotiations for purchase of plant facilities erected under Defense Plant Corporation funds.

Trend of the News

New Aircraft Board: Chairman J. A. Krug of the War Production Board last week revealed that he will re-establish the Aircraft Production Board which ceased to operate following the resignation of Charles E. Wilson. At the same time Krug recommended to members of the aircraft industry that an industry division be set up in WPB. Recommendations from industry spokesmen were being received and early action on the proposal was expected. Apparently the notion that all aircraft production problems had been solved was premature.

Close liaison would be provided with the Aircraft Resources Control Office which still has important work to do, although the emergency problems which once made it an agency of major significance have been licked.

One factor behind the planning which has been in progress is a desire to give the aircraft industry representation at WPB for handling the reconversion problems which will be numerous after the fall of Germany.

Wright Film: Darryl F. Zanuck's portrayal of the life and works of Woodrow Wilson will be used as an example in trying to convince Orville Wright, surviving member of the famous Wright Brothers, that he now should permit the filming of the story of his life and the first successful flight of man in a plane at Kittyhawk, N. C. The move will come from within the aviation industry, and is based on the realization that it would be better to have such a film made now while Wright could check on the details for accuracy, rather than after his death when less reliable sources would have to be depended upon.

Service to France: With the Air Transport Command starting regular service to Paris and with ATC planes landing at Brussels, Marseille, Cherbourg and other points in France, some airline men are wondering if the ATC practice of permitting a *FEW* civilians traveling on war business to ride the planes by paying fares will be extended. If so, they feel the airlines could give the same service, providing they were able to get planes.

Schools Optimistic: With pilot training periods increased from 10 to 15 weeks, and the calling of a conference by the Army Air Forces at Dallas, Texas, at mid-month with private operators of flying schools, the ap-

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25c

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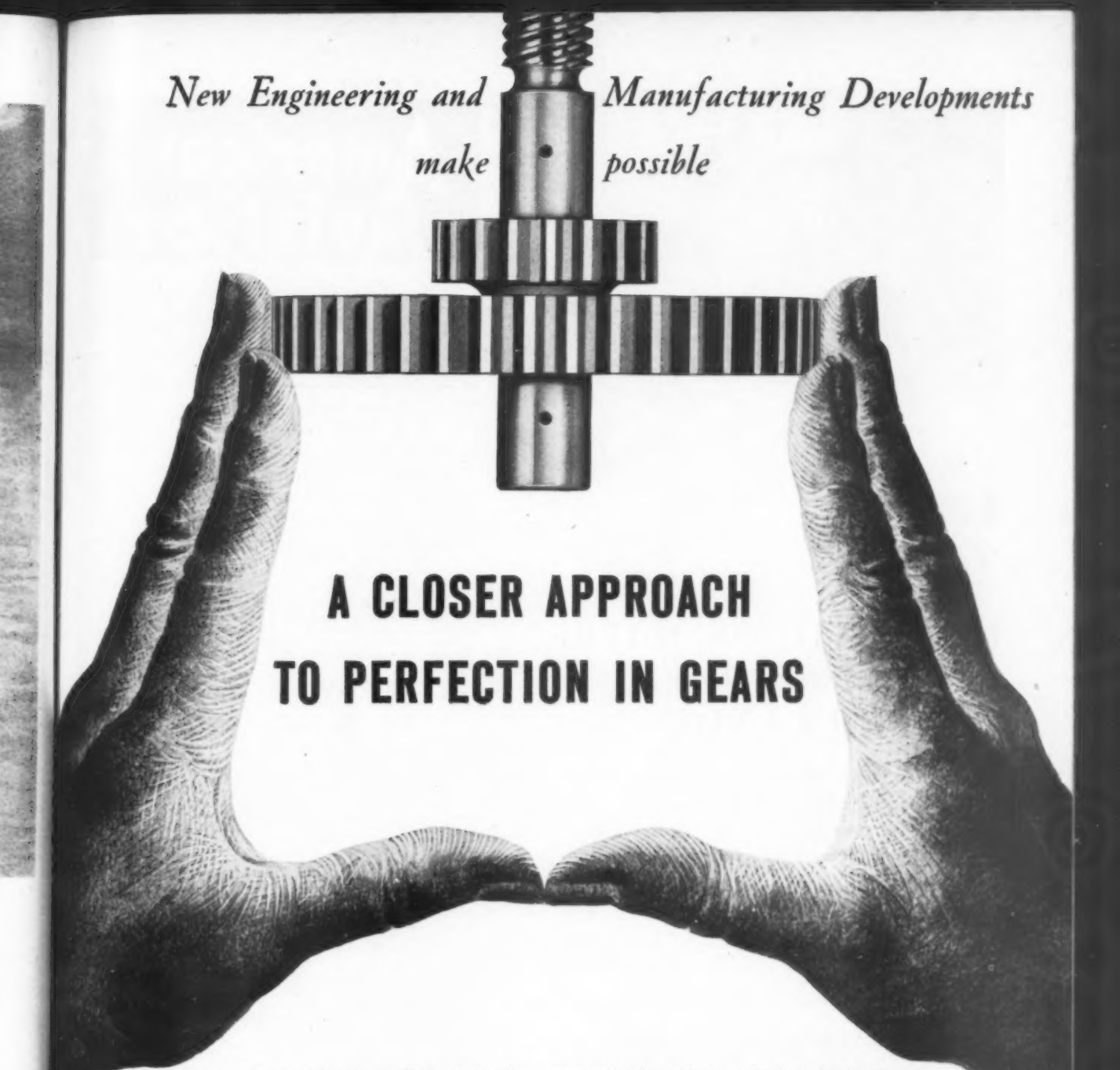

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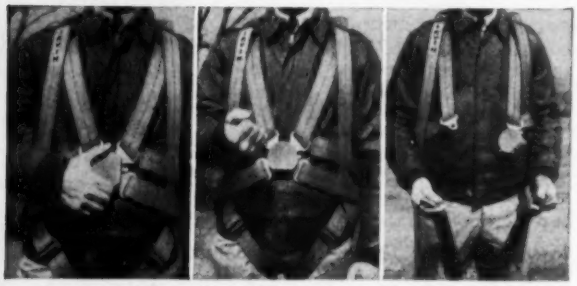

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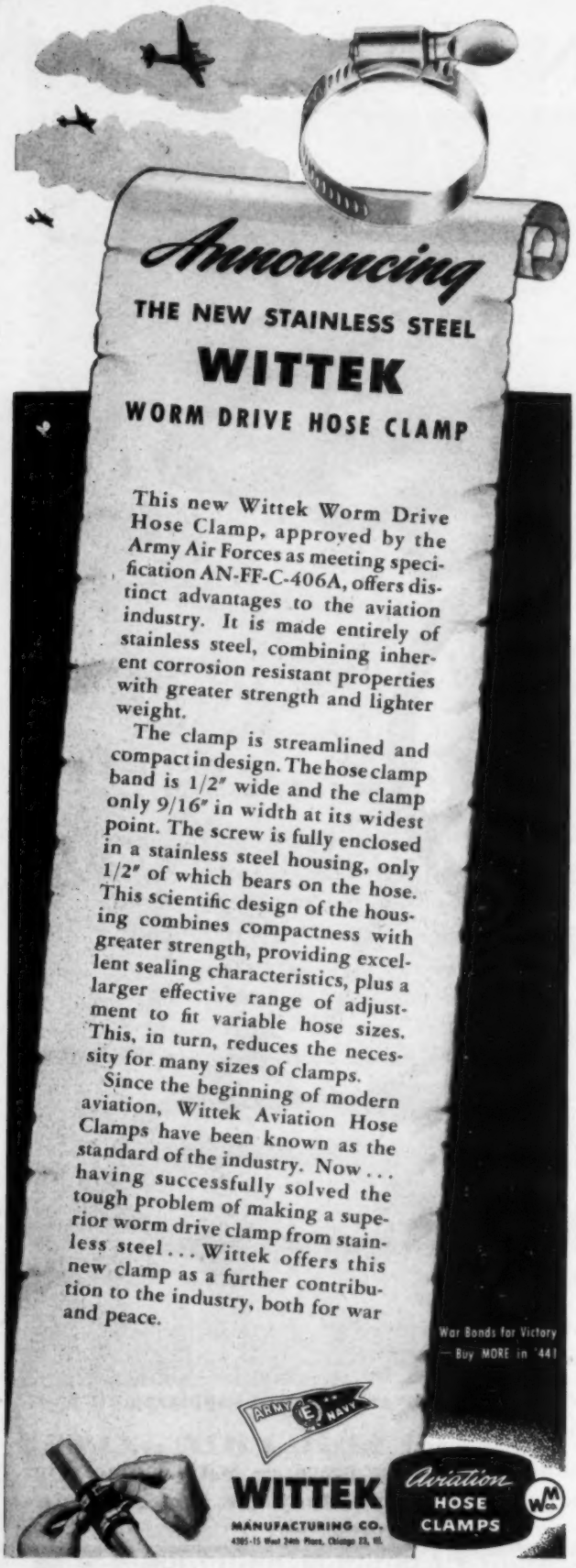
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Trends

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proximately 25 schools which still will have Army contracts after Oct. 16 are optimistic about the prospect of continuing operations for several months. The operators of the schools believe that with the present casualty rate and the outlook for much hard fighting ahead, the Army will slow down pilot flow without closing more schools. Students in the AAF training Command's coast-to-coast pilot training system will be retained in the phases of training in which they are currently engaged for an additional five weeks commencing Oct. 16. The directive applies to all phases of undergraduate pilot training including pre-flight, primary, basic and advanced.

Two-Cent Fare: Engineers are now at work on ideas for the construction of planes which can be operated so efficiently and economically that a two-cent per mile fare may some day be possible for long haul, transoceanic operations. Realization of this goal centers around engine improvements as well as the use of considerably larger planes than are now on the drawing boards or under consideration for immediate postwar use. A two-cent per mile rate would enable a traveler to fly between New York and London for approximately $60 with round trip fares possibly around $100.

Clamp Down in Germany: The aviation industry views with mixed feelings one of the "planks" in the State Department's tentative plan for the treatment of Germany after the war. This provision would call for the prohibition of civilian as well as military aviation in Germany, and possibly the denial of the right of any German to fly even a private plane for many years. Many in the industry are doubtful whether such a rigid policy would serve any good purpose.

New Competition: Indications increase that a majority of the automobile manufacturers who were pressed into the aviation field under war pressure will drop out entirely in the face of the realities of postwar aircraft demand. Recently when the Fisher Brothers, who dropped out of the General Motors organization last summer, filed incorporation papers for two firms to engage in the manufacture, sale, and handling of aircraft and automobiles, the question was immediately raised as to whether a brand new firm might plunge into the postwar aircraft manufacturing picture.

The question was largely clarified last fortnight when the Fisher Brothers issued a statement saying that they had no immediate plans for establishment of a manufacturing business, and that the incorporation move "means only that we seek to protect our rights to manufacture under our own name." Industry circles are now convinced that the Fishers will not be in the aircraft manufacturing business for a long time to come.

Transport Priorities: First announcement can be expected in about two weeks of the granting of priorities for the sale of surplus transport planes. Defense Plant Corp. and the Air Transport Division of Foreign Economic Administration are now studying both domestic and foreign applications with the aid of an Interdepartmental Working Committee, and expect to come out with their first priority lists soon.

Congressional Leadership: It is certain that only a few of the aviation industry's legislative issues will be ironed out during the November and December sessions of the present Congress. It is especially significant, therefore, that leadership of the various Congressional committees which figure strong in matters of interest to the industry probably will undergo a complete change when the new Congress convenes next January.

It is a foregone conclusion that the House will have a Republican majority next year. Under the priority system, the following changes in committee chairmanships can be expected:

Rep. Hamilton Fish (R., N. Y.) will succeed Chairman Sabath (D., Ill.) as head of the important Rules Committee which dictates what legislation is permitted to reach the floor, and determines the time allotted for consideration.

Rep. Taber (R., N. Y.) will succeed Chairman Cannon (D., Mo.) on the Appropriations Committee; Rep. Treadway (R., Mass.) will replace Chairman Doughton (D., N. C.) on the Ways and Means Committee; Rep. Wolverton (R., N. J.) will

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Quoting: R. L. ANDERSON, Superintendent of Engineering, CHICAGO and SOUTHERN AIR LINES

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Editorial

(Continued from page 1)

rapidity as could be expected in those times. Against the CAB is a record of great inconsistency in decisions and policy, a lack of forward planning, of a few weak members, and a general lack of forthright courage. In addition, one might mention the informality with industry on the part of several members, a matter which has not helped the prestige and dignity of a quasi-judicial agency. But on the whole, the CAB's record could have been much worse. One comes to judge Government agencies not by how good they are but how much worse they might have been.

When one looks at the international problems, however, the CAB falls far short of what will be required. What the U. S. needs in our foreign problems is either a strong individual—a Lord Beaverbrook—or a closely-knit and astute policy group. The CAB's functions as presently set up by Congress are largely regulatory and judicial. But in the foreign field we need positive determination of planning and policy. At present the Department of State is asserting itself in the policy direction, but this is not too healthy in the long run. The Department of State is far short in ability to handle our foreign air matters firmly and understandingly, although it should certainly have a part in the policies and is more ably staffed than at any previous time. Essentially, aviation needs its own spearhead—a leader who knows what he is doing and has the power and ability to follow through. It is unfortunate that the Department of State has not been keeping the CAB as fully informed on its activities as is consistent with good Government planning.

We have no concrete suggestions to offer at this point. Probably a complete legislative overhauling will be needed in due course. In this regard the pending McCarran Bill does not fill the need by a wide margin. But we do submit that legislators and aviation officials alike should begin studying the future legislative requirements.

There are some serious basic structural faults in the present CAB-CAA organization which should be corrected by legislation. It is obvious that a five-man board cannot be at one and the same time experts on foreign aviation matters, economic specialists on mail pay and route certificates, and technical experts on air safety and minor traffic violations by civil flyers. It is absurd to expect one individual to express an experienced opinion on air mail pay one hour, and an hour later have him try to determine the technical causes of an airline accident or the wisdom of fining or suspending judgment on a minor air traffic violator in a Cub airplane, and then sit in on weighty matters of international importance. And it never has made sense that the board that makes the rules also sits in judgment on those same rules. It is a structural weakness in the Act.

Sooner or later a new legislative set-up will be required. Now is the time to start thinking about it. Meantime the prospect of a new, or patched up, law, should not deter the CAB in its pending and contemplated decisions on either the domestic or foreign front.

Randolph Aids Aviation

THE FACT that every member of Congress owes his primary allegiance to, and his chances of re-election to, the voters of a local Congressional district, often restricts the interest of Congressmen to local rather than national affairs. Not very often are the local constituents aware of, or appreciative of, the efforts their Congressman makes in matters of national import.

Representative Jennings Randolph is a fine example of a Congressman who has interested himself in broad national issues, aviation in particular. He has done much to advance civil aviation in Congress and he has won many Congressional friends to the need for more airports and air services. Recently, the House Interstate and Foreign Commerce Committee reported out a bill asking the CAA to conduct an airport survey and report to Congress. This is the original Randolph bill. This is only one instance of the initiative he has taken on behalf of national aviation—a progressive interest which civil aviation should appreciate.

WAYNE W. PARRISH.

Trends

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succeed Chairman Lea (D., Calif.) on Interstate and Foreign Commerce; Rep. Andrews (R., N. Y.) will succeed Chairman May (D., Ky.) on the Military Affairs Committee; and Rep. Maas (R., Minn.) will succeed Rep. Vinson (D., Ga.) as chairman of the Naval Affairs Committee.

Railroad Fares: Airline operators are watching developments in the railroad industry where sentiment has grown among officials, particularly of eastern roads, favoring an increase in railroad fares. The nation's railroads are seeking to obtain restoration of the 1942 freight rate increases, and it was freely predicted that a request may be made soon to Interstate Commerce Commission for a boost in passenger fares. Railroaders maintain that millions will be needed to finance new equipment and repairs to roads damaged by wartime traffic, and also that passenger traffic does not contribute a proportionate share of rail income in relation to expenses.

Airlines, on the other hand, expect continuation of the trend toward lower air fares.

Bright Spot: One optimistic phase of aircraft manufacture is in the radar and radio fields of production where increasing demands are keeping those plants humming. Radar output has continued its sharp month-to-month increase. The activity is gratifying but it is preventing much attention from being paid to plans for the early production of good radios for civilian use.

Policy Turnabout: As a result of a change in policy by the Army a number of aircraft modification centers soon will be flying "E" flags. For months on end while other war centers were deluged with "E" awards the modification centers were given no such recognition because they were not classed by the Army as manufacturing plants. Now, the Army has shown a change of heart and granted "E" awards to at least four modification centers and more will be made soon.

Simplicity Wanted: Manufacturers of small planes while seeing a rather rosy picture for future sales eye with alarm the coming battle over civil air regulations for the private flyer. Much pressure already is being brought from their standpoint for radical simplification of air rules. CAA is on the spot because of generous predictions on how many hundreds of thousands of personal planes will be in use by 1950 whereas CAA regulations and red tape are the biggest current deterrents to expansion of private flying.

Rules of the Road: So that private flyers will not create hazards on approach and takeoff from busy airports of the future engineers are at work on simple instruments, including plastic protractors, to help amateur pilots keep on the "right side of the road."

New Offices—It appears that Sixth Street in Los Angeles will remain "Airline Row." Several of the companies are laying elaborate plans for new and enlarged downtown offices. These new offices will be located in the same section that has been used by the airline firms for many years. All the new offices will represent enlarged and elaborate facilities. Some moves are involved in the plans, but the new offices will be in the same general vicinity along Sixth Street.

AAF Says It's a C-39

Cranston, R. I.

To the Editor:

On page 56 of your Oct. 1 issue, there is a picture of what you call a Douglass C-39. I think that you are mistaken, and that the plane pictured is an Army Douglas C-68 (DC-3 with regular airline 21-passenger interior).

The plane in your picture has a barreled fuselage, narrow, pointed wingtips, absolutely rectangular cabin windows, an airline-type cabin door, and a DC-3 tail wheel fork, whereas the C-39 has a straight-sided fuselage, larger wingtips, cabin windows with rounded corners, a cargo-type door, and a DC-2 tail wheel fork.

I should like to see a picture of one of the planes PAA has purchased, as I am not quite sure which version of the DC-2—DC-3 combination is the real C-39.

ARTHUR A. CARTER, Jr.

Editor's Note—We still believe we're right, and the Intelligence Photographic Division of the U. S. Army Air Forces agrees that the picture is of a Douglas C-39.

Stockholder, Not Director

Rio de Janeiro.

To the Editor:

Upon my return to Rio I had the occasion to read an article in your July 15th edition of *American Aviation* referring to Servicos Aereos Cruzeiro do Sul as related by F. L. Duncan of the Defense Supplies Corporation.

I would like to call your attention to the statement therein made regarding my connection with that company. Although it is true that I am a stockholder of Cruzeiro do Sul the implication that I am also a director of that company is incorrect. You can easily understand that, under the circumstances, and after due consideration of the competitive angle involved, such a state of affairs could not exist.

I certainly could not sensibly maintain executive powers in both organizations without seriously jeopardizing the activities of the companies involved and you can be assured that neither Panair do Brasil nor Cruzeiro do Sul would tolerate such a condition.

PAULO SAMPAIO, President.
Panair do Brasil, S. A.

Good Supervisors Needed

To the Editor:

It is going to be difficult to answer 'Lay Off Us Executives' without interjecting a personal flavor.

There is almost certain to be a flood of bulletins from newly appointed supervisors. Some of them are worth the paper they are printed on, and some of them are ideas that the appointee has saved for years for just such an occasion.

However, I do take issue with the writer of the letter about advising the party to get out of the airline business at once. I believe he misses a definite point—morale.

Letters

When a company spends time and money training a person to do a job it should show some concern about one who becomes cynical. His turning to this mental condition has been caused by something or someone. Usually someone. That someone is undoubtedly his immediate superior.

I believe one of the qualifications for a supervisor is ability to handle and understand personnel. I have noticed a definite dearth of such persons, not only in my company, but in talking to friends of mine in other industries. It seems that in the rush of replacing personnel who have gone into the armed forces that point has been overlooked.

A supervisor controls the future of all those under him, and if he is the kind of person who is afraid to commend an employe for fear of losing his position, or of having to replace the person because his recommendation was heeded, then the employe is at a definite disadvantage. There are supervisors of that kind, and I know several.

Cynicism is bred from thwarted ambitions. The person who wrote the letter was undoubtedly as enthusiastic about his job and future as anyone. He probably worked as hard as the next person to do a good job, but even though his head is constructed along the same lines as any other, it can only be rammed against a brick wall so many times.

The importance of any job diminishes when the worker feels that he is being used.

Let's pat the boys on the back who are carrying the load at home. It doesn't cost a penny!

(NAME WITHHELD BY REQUEST).

Romantic Era Gone

Flushing, N. Y.

To the Editor:

Both sides of the "Airline Executive Controversy" have now been presented with somewhat more enthusiasm than dignity.

The first letter to appear was clearly a "gripe," tactless and unhappily phrased. The gentleman whose letter you printed in the September 15th issue nevertheless saw fit to answer it.

He says, "I believe we can forget the nonsensical ravings of the party who . . . condemned airline executives, and especially the volumes of bulletins they turn out." Then, after dismissing this idiotic drivel from his further consideration, he turns to defending the executives with all his might!

He congratulates *American Aviation* for its policy of "bringing up some unpleasant truths," yet he refuses to recognize an unpleasant truth when you bring it up for him.

Bulletins are necessary; not only for presenting new ways of doing things, but for getting essential information to a large number of employees quickly.

But the bulletins do not always contain essential information; and they are often wordy and vague. Then they become more numerous and less effective.

The answer to the bulletin problem is strict control and concise presentation of subject matter.

Now we turn to the disturbing picture of a group of airline executives sitting "fat, dumb, and happy" around the conference table, and accomplishing nothing. By presenting this deplorable illustration of executive degeneracy, our critic probably is questioning (1) the necessity for numerous meetings and (2) the method of conducting meetings.

In all meetings or conferences there is something of the "big business" atmosphere. This is attractive to many executives of high and low degree—mostly the latter. It is at them that this criticism is aimed, I believe.

A minor executive or supervisor should be able to make most of his decisions without recourse to the opinions of coordinates. In fact, and our critic makes a point, some of the best thought will often come from his subordinates.

When a conference is truly required, let the person calling the conference notify those expected to attend of (1) the subject to be discussed, (2) the end to be attained, and (3) what each is expected to contribute to the discussion. Then let him rule the conference with an iron hand, and keep it ever directed toward the desired end.

The original criticism of airline executives was directed at the industry as a whole. Could it be that some of our present executives and supervisors have merely *gone ahead* with the industry, rather than *grown with* it?

There is a major argument which our critic failed to recognize and which our defender neglected to bring out: that, in spite of reams of bulletins and numberless abortive gatherings, the airline industry is healthy, growing, and doing right well for itself.

Operating policies and procedures are up-to-the-minute and limited only by progress in allied sciences. In our striving for operating perfection, however, we have overlooked the need for administrative facility.

We are fast becoming a great industry; the administrative problems of a great industry will soon be ours; and we are not prepared to meet them. Our administrative machinery is due for a major overhaul. Broken and obsolete parts must be replaced, and the whole mechanism redesigned for simplicity and efficiency.

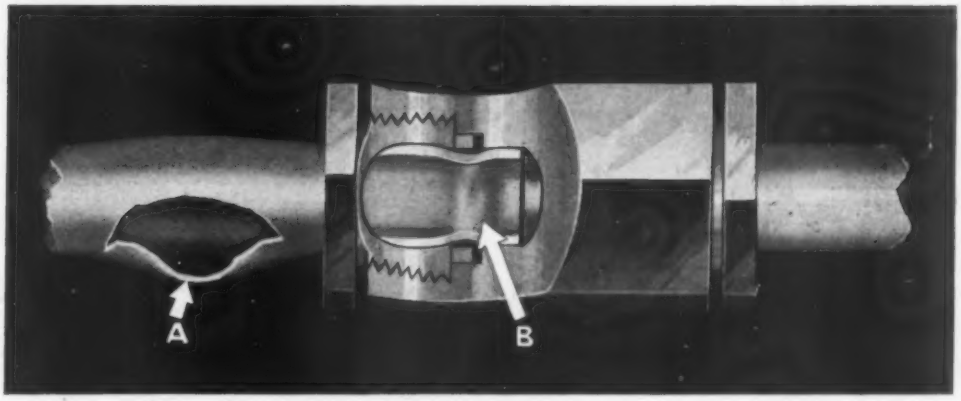
It is the duty of executives and supervisors to believe in the advantages of scientific management; to learn all they can about it; and to apply its principles in their everyday work.

The romantic era of aviation is past. The airline is now accepted as a standard means of transportation; it may some day become the primary mode of travel. In the meantime we are faced with the prospect of continued growth, perhaps at a rate that would be considered abnormal for other industries.

We must be certain that our internal organizations will safely bear the strain of rapid expansion.

WILLIAM A. MARTIN.

"Another Martin First!"



Cut-away view of new Martin rigid hydraulic tube connection. Arrow "A" indicated point at which tubing gave way under pressure of 6,200 p.s.i. while connection held firm without leakage. Arrow "B" points to cut-away section and bead put in tubing by rubber ring when gland nut has been tightened.

New Martin Hydraulic Tube Connection

Withstands constant vibration, higher pressures without leakage, failure, or pressure loss

Failure or leakage of hydraulic tube connections, long a stumbling block in the utilization of high-pressure hydraulic equipment, has now to a great extent been overcome, thanks to a new Martin rigid hydraulic tube connection.

Simple, Foolproof With the Martin connection, the tube is beaded by an axial thrust against a rubber seal ring which is completely confined. The thrust is accomplished by turning up on a gland nut. Thus the present flaring operation, which is so often the source of leakage or failure, is eliminated, and steel or hard alloy tubing of higher strength than the usual 52SO-soft may be used. Moreover, the connection is foolproof, being so designed that after proper tube bead has been obtained the gland nut bottoms in the gland and further crushing of the tube is impossible. The elimination of flaring and external beading makes gland unit readily removable.

Tight, Leakproof When the new Martin connection is in use, the rubber ring is constantly exerting an outward force on the gland nut, thus locking the threads; while the pressure of the expansion ring forces the rubber to completely seal the tube against leakage.

This new fitting may be installed quickly and easily as a repair for a broken tube, or as an original permanent installation. Fittings may be standard and have varying width compression rings for varying pressure requirements. All parts may be used over again, excepting the rubber ring which in some instances may have to be replaced. The simple design of this fitting will make it easy to fabricate in large quantities and at a minimum cost. Martin engineers predict wide-spread varied uses for this connection throughout the aircraft and other industries. Interested companies write:

THE GLENN L. MARTIN CO. BALTIMORE 3, MD.
THE GLENN L. MARTIN-NEBRASKA COMPANY—OMAHA

TEST RESULTS

The following tests have been made on the new Martin rigid hydraulic tube connection:

(1) Torque required to install a ⅜ fitting.
Aluminum—200 inch pounds.
Steel —900 inch pounds.

(2) Pressure test on aluminum tube inst. with one end of assembly capped:
⅜ dia. tube x 035 wall—6,200 p.s.i.
⅝ dia. tube x 049 wall—5,000 p.s.i.

(3) ⅜ steel and alum. tubing assembled in a double fitting and vibrated for 25 hours under 1500 p.s.i. pressure and no evidence of leakage.

(4) Mechanical tension test:
⅜ steel tubing 1000#
⅝ alum. tubing 400#

(5) Pressure loss due to restriction in tube is negligible due to smooth contour of restricted area.

Martin AIRCRAFT

Builders of Dependable Aircraft Since 1909

The Sailor on Flight 3*

2:00 a.m. . . . Again the United Mainliner stewardess studied the young sailor. He seemed restless; his face was flushed.

"Are you well?" she asked with concern.

He attempted a smile. "Sure, I'm all right."

Nevertheless she gave him a blanket. She watched him as the miles slipped past. Lights were dimmed. Passengers slept. Westward the Mainliner flew . . . Des Moines . . . Omaha . . .

The girl kept vigil. She checked his temperature and pulse. Rising! 4:00 a.m. . . . North Platte . . . He was asking for water . . . 5:10 a.m. . . . Pulse fast. Temperature over 102! *This lad is ill*, she knew. Yet, loyally, he insisted he must continue on to his base in California. Impossible! He was getting worse!

She called the pilot. A moment later he was talking on the two-way radio, his urgent words flashing through the night: "Flight 3 calling Denver . . ."

That boy had pneumonia. At Denver everything was in readiness. An ambulance rushed the young sailor to the hospital. Naval authorities were notified.

Considering the welfare of its passengers is the duty of United. But here was an incident in which a stewardess's human and sympathetic understanding sprang from something far deeper than merely following company rules. For at Denver she was now off duty. The boy was on the way to a hospital. Her job was done.

But no! She had to be certain that he received the finest possible attention. So she rode in the ambulance with him. Another thought troubled her. His family! She visualized their anxiety when they heard that their son, miles away and alone, was seriously ill.

So she wrote them detailed letters, reporting everything, cheering them when the boy was finally past danger. Only then did she feel free to mark the case closed.

The father wrote us: "Service such as this is over and above the line of duty. My wife and I are most thankful that Bob was traveling via United Air Lines when this emergency occurred."

Service? Yes, but something more. You'll find it in the thoughtful attention and cooperation offered by *every* United employee . . . the underlying spirit of United Air Lines itself!

One of many true stories from the files of United Air Lines

'Diversional Flying'

Fort Worth, Texas

To the Editor:

Since your editorial in the June 15th issue of *American Aviation* entitled "Aviation Terms," I have read with interest many letters you have published relative to the term "private flying."

It is amazing how this subject has been kept alive all these months. Apparently there is a need for a change or the matter would have dropped out of sight in one issue. On the contrary, however, three months have passed and the sixth issue dated September 15th carries another letter indicating that the answer has not yet been found.

Everyone seems to agree that the word "promotion" should be removed from the aviation business vocabulary. But "private flying" still sticks even though it is agreed that it is not a suitable phrase.

May I contribute the following. There is a noun that seems to fit but, so help me, I shall have to guess at the adjective. The noun is DIVERSION and the synonyms to DIVERSION are: Amusement, entertainment, relaxation, pastime, sport, recreation, pleasure and last but not least, avocation. This seems to cover the field pretty well including flying one's personal or company owned aircraft as an adjunct to the performance of his regular business duties. I propose then, the phase, DIVERSIONAL FLYING.

Very truly yours,
R. G. WEMPLE, JR.

'Keen Pleasure'

381st Bomb Group (H) AAF
Somewhere in England

To the Editor:

I am enclosing my check to renew my subscription to *American Aviation* for the second three years when my present subscription expires, and I particularly want to say what a keen lot of pleasure 'The Independent Voice of Aeronautics' has been to us here in the air forces.

You are certainly doing a real job for all of us that are away and we can never thank you enough for your pioneer work for the great future of aviation. We hope there will be several independent airlines running world routes . . .

Needless to say—even though copies do not reach us very regularly here—each issue of *American Aviation* is very much studied. Keep up the fight for us for freedom!

JOHN H. ESBENSHADE
1st Lt. AC

Obituary

Thomas A. Dicks

Thomas A. Dicks, 85, believed to be the oldest active worker in the aircraft industry, died in Pittsburgh Sept. 30.

Since 1938 a consultant engineer of Hamilton Standard Propellers at East Hartford, Conn., Dicks was the founder in 1918 of the Dicks-Luttrell Propeller Company, which became the Standard Steel Propeller Company, later a component part of Hamilton Standard. In 1928 he founded the Dicks Aeronautical Company which became the propeller division of the Pittsburgh Screw & Bolt Corp., later purchased by the Curtiss-Wright Corp.

In 1918 Dicks, as chief engineer of Standard Propeller Co., produced the first hollow steel blades, and in 1920 one of the first controllable and reversible propellers. In 1921 he pioneered the first drop-forged aluminum alloy blade. Most hollow steel blades now in use are based in part upon pioneering done by Dicks.

Books

INSTRUMENT FLYING AND RADIO NAVIGATION, by Holland L. Redfield. 195 pp. Ronald Press Co., New York City.

The author is an airline instrument flight instructor and his book attempts to offer a simple, systematic guidance in instrument flying and related radio navigation as required for the handling of fast modern aircraft. Redfield writes of a method of instruction which he has developed through experience ranging from teaching pilots, with no experience in flying on instruments, to seasoned airline captains perfecting their techniques and keeping abreast of the latest methods.

LANZ AVIATION DICTIONARY IN NINE LANGUAGES, by John E. Lanz. Foreword by Donald Douglas. P. D. and Ione Perkins, South Pasadena, Calif. 440 pp. $6.50.

Here is a valuable collection of aviation terms and their definitions in English, with the translation of each term into Spanish, Portuguese, French, Italian, German, Russian, Chinese, and Japanese. The subjects included in these terms are: aerodynamics, airplane design and construction, airplane operation, repair and maintenance, airplane engines, airplane instruments, airships and balloons, combat maneuvers, land and sea planes, nomenclature, flights and training maneuvers, meteorology, navigation, parachutes, radio and radio range, and theory of flight.

THE TECHNIQUE OF THE TERRAIN, by H. A. Musham. 228 pages. $3.85. Reinhold Publishing Corp., New York City.

This book comprises a study of maps and their use in the field in time of peace and war. Not concerned with the production of maps nor with the entire subject of topography, the author attempts to furnish sufficient technical material and data to aid the student in mastering any of the typographic problems that are met in the field of operations. As far as possible the mathematics of the subject has been eliminated. As the test is intended to further serve as a reference manual, many tables of pertinent data have been added.

Wings of Yesterday

Twenty-five Years Ago

Experimental aerial mail service was started between Barranquilla and Puerte, Colombia. (Oct. 14, 1919).

Japan appropriated $125,000,000 for air services. (Oct. 17, 1919).

Brazil's budget for 1920 included the establishment of aerial mail service. The Government's loan amounted to $25,000,000. (Oct. 17, 1919).

Capt. Gathergood, flying an Airco D.H.-4 plane with a Napier engine, made a new record of 80 minutes between London and Paris. (Oct. 18, 1919).

The Vickers Co. of England has contracted to supply planes and equipment to the Chinese Government for $43,000,000. (Oct. 21, 1919).

Fifteen Years Ago

The Mackay Trophy for 1928 was awarded to Lt. Harry A. Sutton, Air Corps, for his testing of several types of planes for spinning characteristics. (Oct. 14, 1929).

Dornier DO-X, the world's largest flying boat, made an hour's flight over Lake Constance, Switzerland, carrying 169 passengers, the largest number of individuals ever carried by air in a single craft. (Oct. 21, 1929).

The American Road Builders' Association and the Airport Section of the Aeronautical Chamber of Commerce held a joint conference in Washington, D. C. (Oct. 24, 1929)

New Booklets

"Welcome to Southern Skies" is the title of a booklet being handed to all passengers on Delta Air Lines planes. "We hope that in the course of your flight you will sense the traditionally hospitable spirit of the South," says the foreword. The booklet describes "Delta Land" as a land of "power and promise."

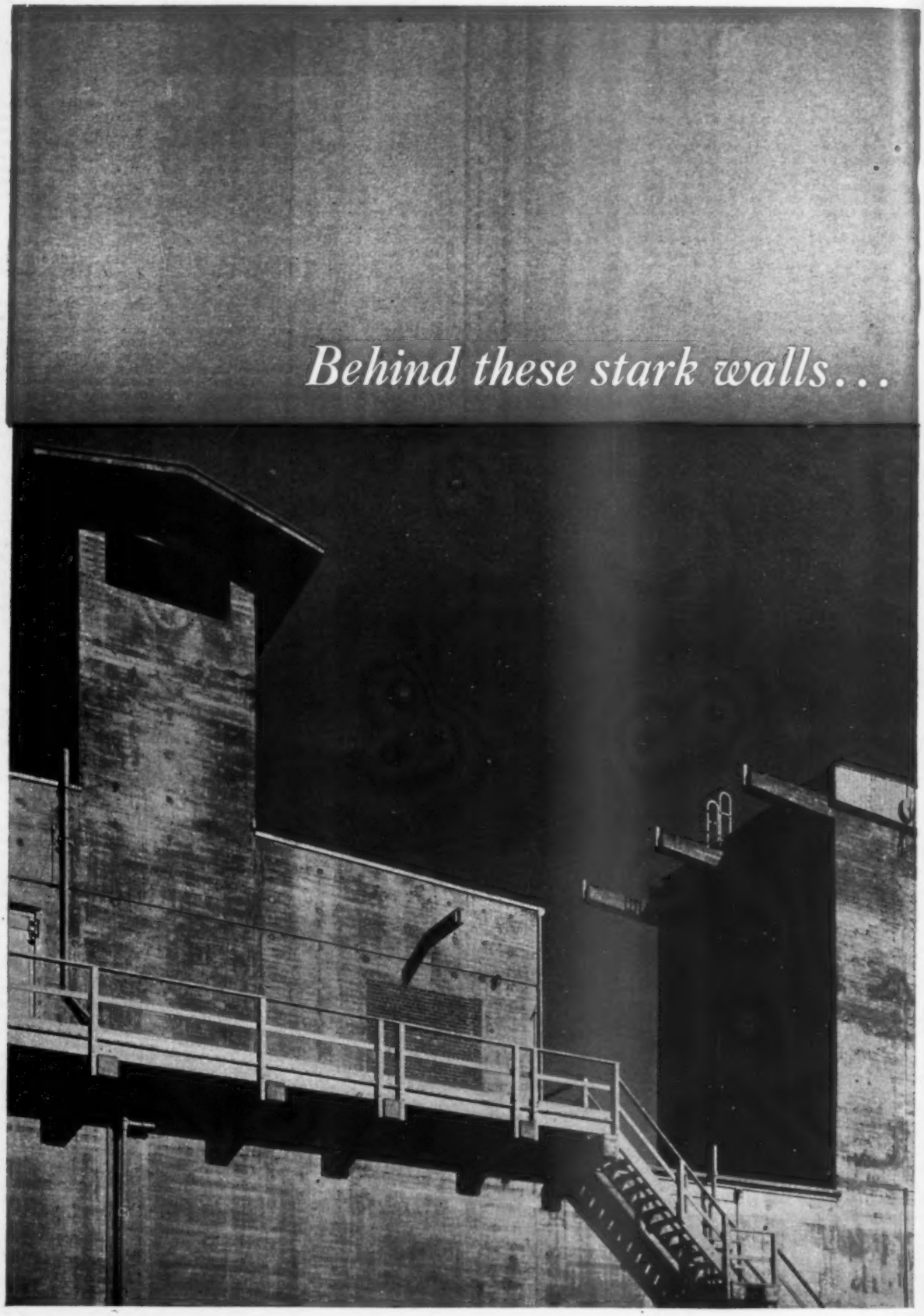
A booklet entitled "Notes on Helicopter Design Theory," based on a series of lectures delivered during March and April of 1944 at Princeton University by Alexander A. Nikolsky has been issued by the Princeton University Press. The lectures were delivered to a group of engineers representing the U. S. Army Air Forces, the U. S. Navy Bureau of Aeronautics, and a number of aircraft manufacturers.

A booklet is being circulated by United Air Lines to present and prospective airline patrons throughout the country asking what is desired in airliner seats, berths, upholstery, compartments, cabin lighting, baggage facilities, lounges, and other interior details. The booklet even suggests that movies, television, and radio may be innovations in postwar planes.

Simmonds Aerocessories, Inc., of New York, has released a brochure which presents a digest of authoritative predictions recently made by aviation leaders concerning the industry's expansion in the postwar era. The brochure was prepared for Simmonds by Aviation Research Associates and a limited number of the booklets which are entitled "Aviation Predictions," may be obtained by writing the company at 30 Rockefeller Plaza, New York, 20, N. Y.

Merrill Lynch, Pierce, Fenner & Beane, investment brokers, has issued a brochure based on a survey of the capitalization, operations records and financial positions of all of the airlines of the United States. The booklet is entitled, "Airlines—1944." In addition to a forward look, based on the predictions of some of the aviation leaders in government and industry, the study discusses many phases of postwar air transportation, both domestic and foreign. The booklet is illustrated and contains many interesting graphs, charts and tables.

XUM

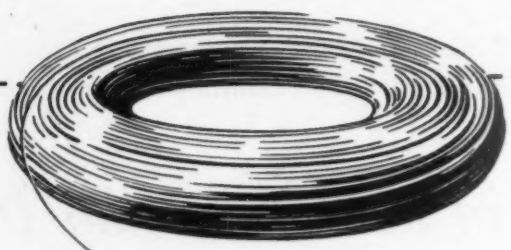

Behind these stark walls...

Even against the weird landscape of a modern refinery, it is an architectural oddity, a windowless dwarf of a building, a runt in comparison with its towering neighbor the "Cat Cracker."
But it wasn't to win architectural awards that this squat concrete cell was built and stoutly anchored on a 9-foot thick bed of concrete.
This is an aircraft engine testing laboratory unlike any other in America. Here engines will be run to the death not to test the engine but the fuel.
It will handle anything up to 3,000 horsepower. And throughout, from its vibration-proof control room floated on cork

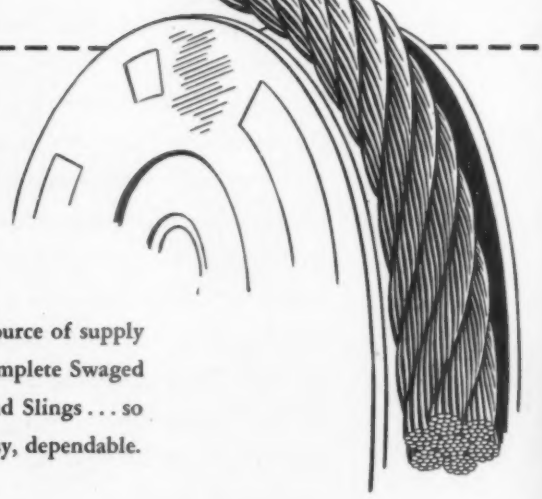
The new limits of new Aviation Fuels will be explored in the Petroleum Industry's First full scale Engine Testing Laboratory

to its 50,000 cubic feet per minute exhaust fan its equipment is the last word.
Controls are electronic, tempered air for carburetion will be supplied at 4″ mercury pressure. Instead of the normal 4 checks on temperatures within an engine . . . there will be 186 thermocouples. We'll get fractional horsepower ratings. We'll run engines far above their rated power to test the limits of the new fuels that come from our laboratories.
It is the first full-scale engine testing cell in the petroleum industry. It will enable us to set up the first uniform testing method to get fuel ratings and full-scale data.
And it will be bound to increase the contributions we make to the science of aviation fuels.

Beyond a slide rule's scope . . . beyond the multi-mechanical factors of rolling, heat treating, wire drawing, and final fabrication . . . are the quality-keen minds of Roebling researchers, engineers and fabricators. That's another reason why you can depend on . . .



ROEBLING *Aircord*



MEN WHO MAKE ROEBLING AIRCORD know that each wire must pack maximum strength into minimum weight . . . that each strand . . . each inch of control cable must meet superlative standards of accuracy in steel analysis, tensile strength, flexibility.

That's why you may look to Roebling as a responsible source of supply for your needs in Control Cord and Strand, Terminals, Complete Swaged Assemblies, Control Casings, Special Wires and Cables and Slings . . . so that controls on the ground—in the air—will be positive, easy, dependable.

Aircord Division

JOHN A. ROEBLING'S SONS COMPANY

TRENTON 2, NEW JERSEY • Branches and Warehouses in Principal Cities

ROEBLING

means Control in the air

WIRE ROPE AND STRAND • FITTINGS • COLD ROLLED STRIP • AIRCORD, SWAGED TERMINALS AND ASSEMBLIES • ROUND AND SHAPED WIRE WIRE CLOTH AND NETTING • HIGH AND LOW CARBON ACID AND BASIC OPEN HEARTH STEELS SUSPENSION BRIDGES AND CABLES • ELECTRICAL WIRES AND CABLES • AERIAL WIRE ROPE SYSTEMS

Wounded Soldiers, Sailors, Marines "Go Douglas." To date, over 200,000 Allied casualties have been brought back to safety by air. Evacuation of wounded from battle zones is a 100% Douglas responsibility.

Very Important People "Go Douglas." Army, Navy, Government and Industry Leaders travel in Douglas planes on our domestic airlines to speed the nation's mighty war effort.

7 out of 10 transports flown by the Air Transport Command are Douglas. If it's a mission to Moscow or a trip around the world, United Nations leaders "Go Douglas."

They all GO DOUGLAS

First AROUND THE WORLD · *First* THE WORLD OVER

Douglas
AIRCRAFT

DOUGLAS EQUIPPED AIRLINES: American Airlines — Hawaiian Airlines Ltd. — Braniff Airways — Chicago & Southern Air Lines — Colonial Airlines — Delta Air Lines — Eastern Air Lines — Western Air Lines — Northeast Airlines — Northwest Airlines — Pan American Airways — Pennsylvania-Central Airlines — TWA — United Air Lines — China National Airways — Pan American-Grace Airways — Avianca (Aerovias Nacionales de Colombia) — Cia. Mexicana de Aviacion — Ponair Do Brazil — Cia. Nacional Cubana de Aviacion, S. A. — Uraba, Medellin and Central Airways — Cruzeiro do Sul (Brazil) — Primeas Lineas Uruguayas de Navegacion Aerea, S. A. — Aerovias de Guatemala, S. A. — Canadian Pacific Airlines — Australian National Airlines — Royal Dutch Airlines (K.L.M.) — Royal Netherlands Indies Airways (K.N.I.L.M.) — Sabena (Belgian Congo) — Swissair (Switzerland) — A.B. Aerotransport (Sweden) — Indian National Airways — L. A. P. E. (Spain) — Aer Lingus (Ireland) — American Airlines of Mexico — British Overseas Airways (BOAC) (England).

XUM

So they turned the ocean into a well!

American ingenuity makes salt water fresh for G. I. Joe!

As our forces advance in the Pacific they carry with them one of the most important tools of war—a new compression-type still. With it, the engineers turn the ocean and stagnant pools into wells of pure, sparkling drinking water!

A big problem has always been to transport the large amounts of fuel needed to distill sufficient quantities of water for troops at the front. So the remarkable feature of these new portable "waterworks" lies in their fuel economy.

To help accomplish this saving, they're now equipped with a new type supercharger, specifically designed for the job by Borg-Warner's B-W Supercharger Division. And they're delivering up to 175 pounds of pure water for every pound of gasoline they burn . . . compared to the old ratio of 37 pounds of water per pound of fuel!

Normally, this Borg-Warner division works to improve the performance of gasoline and diesel engines. Its success in cutting the cost of water purification is a perfect wartime example of Borg-Warner's quick adaptability to new problems of design and engineering.

Borg-Warner's basic principle, "design it better—make it better", has long guided the production of many items of essential equipment now in daily use by almost every American. Now, Borg-Warner factories are producing more than 100 items for war.

Partners with the Aviation industry in peace and war, Borg-Warner supplies these and other essential parts . . .

HYDRAULIC, VACUUM AND FUEL PUMPS • CARBURETORS
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HELICOPTER TRANSMISSIONS

ENGINEERING B-W PRODUCTION

BORG-WARNER

Peacetime makers of essential operating parts for the automotive, aviation, marine and farm implement industries, and of Norge home appliances . . . these units which form the Borg-Warner Corporation are today devoted exclusively to the needs of war: BORG & BECK • BORG-WARNER INTERNATIONAL • BORG WARNER SERVICE PARTS • B-W SUPERCHARGERS, INC. • CALUMET STEEL • DETROIT GEAR AIRCRAFT PARTS • DETROIT VAPOR STOVE • INGERSOLL STEEL & DISC • LONG • MARBON • MARVEL-SCHEBLER CARBURETER • MECHANICS UNIVERSAL JOINT • MORSE CHAIN • NORGE • NORGE MACHINE PRODUCTS • PESCO PRODUCTS • ROCKFORD CLUTCH • SPRING DIVISION • WARNER AUTOMOTIVE PARTS • WARNER GEAR

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Oct. 15, 1944

American Aviation

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This Issue

Global Frequencies Asked for Aviation Radio

Four Million Kilocycles Requested From FCC; World Meeting Planned

By Eric Bramley

ONE of the most important hearings ever held affecting aviation radio, which may lead for the first time to the assignment of radio frequencies for aviation on a worldwide basis, is now being held in Washington.

The hearings, being held before the Federal Communications Commission, affect not only aviation radio, but all types of radio—television, marine, standard broadcast, police, etc. The entire spectrum is to be allocated. These hearings are only to determine the U. S. position —an international radio convention will make the final allocations, and present proceedings are in preparation for that meeting.

When the important international convention will be held is not known, and it is expected that it will be dependent upon the end of the war. The last convention was held in Madrid, Spain, in 1930, with modifications being made in Cairo in 1938, and a Western Hemisphere meeting having been held in Santiago, Chile, in 1940. Another Western Hemisphere conference is scheduled for Rio de Janeiro next spring.

Rentzel

In the present hearings, aviation must vie with all other radio services for frequencies. There are 30,000,000 kilocycles available for allocation to everyone, and aviation is staking its claim to 4,000,000 of these. The allocations affect not only air line operations, but also the rapidly-expanding private flying field.

Rentzel Heads Panel

Industry's needs are being presented to the FCC by the Radio Technical Planning Board, an industry group, headed by W. R. G. Baker, vice president of General Electric Co. Panel 11 of this board is the aeronautical radio group, led by D. W. Rentzel, president of Aeronautical Radio Inc., the non-profit radio organization of the U. S. airlines.

Government's needs are presented by an Interdepartmental Radio Advisory Committee, which has suggested the following general priority list for allocation of frequencies: (1) radio services involving preservation of life and property where other means of communications are not available (such as navigational aids); (2) essential communication services which must use radio because no other method of communication can be used (aeronautical and maritime, other than safety); (3) radio broadcasting—sound and television; (4) essential communication services which use radio because it is inexpedient to use land wire or cable, and (5) other radio services.

Because of forthcoming developments in the field of international aviation, and the expansion of domestic services, aviation radio officials say the FCC hearings will have a vital bearing on aviation for many years to come.

Same Frequency for All Uses

Allocation of worldwide frequencies to aviation would mean that the same frequency would be used around the world for radio beams, the same frequency for instrument landing, the same for radio telephone, etc. Advantages would be almost too numerous to list. The outstanding advantage would be that a U. S. plane on a round-the-world route would be able to operate the entire distance without changing radio equipment at any point. The manufacturing job of radio companies would be materially simplified —"standard" equipment could be built.

"Panel 11 cannot overemphasize the necessity for standardization of navigational aids and communications frequencies so that aircraft in the international service may operate without the necessity for changes in equipment en route, for unreasonable burdens of weight and space, or for other serious handicaps to safe and efficient operation," the aviation radio group told the FCC.

Aviation radio's case has been presented in thorough detail to the FCC by Rentzel and others. Charts and graphs have been prepared showing the expected growth of aviation, the routes to be operated, the frequencies needed. Officials believe that aviation's requests have been reasonable and have a good chance of being adopted.

"In the field of transportation and communications, aviation and radio are the sister miracles of the Twentieth Century," Panel 11's presentation said. "Until only about a hundred years ago, when electricity began to show its capacity to short-circuit great distances, communications had to depend on transportation for such speed of transmission as could be achieved. Now, through a strange intervention of Providence, the tables are turned, at least in part. The airplane has become the most rapid vehicle for conquering distance over land and sea. It depends on radio, the most modern means of communication. In fact, it is no exaggeration to state that without radio, air transportation could not exist, at least to any extent substantially contributing to our civilization.

"If there be anyone who, without having knowledge of the facts on which the recommendations of Panel 11 are based, is tempted to question the requested assignments, we ask only that they pause, hear the evidence, and weigh in the balance the benefits that will come to the United States through the development of air transportation to the four corners of the world."

Commercial aviation, Rentzel's group told the FCC, falls into three broad categories: (1) non-scheduled or itinerant aircraft operation, (2) domestic scheduled, and (3) international scheduled.

The needs of aviation services in the first category for radio frequency transmission fall into the communications air-ground and the air navigational classifications. "It may be reasonably be assumed that during the next five years, and perhaps very soon, all such aircraft will be required to equip themselves with two-way radio communications," the FCC was told. "This will be compelled by the expected tremendous increase in this type of operation and its accompanying hazards, with consequent need for control and weather information. It may also be assumed that, although air navigational aids for this type of aircraft operation will probably be supplied by the federal government, the expansion of airports confined to non-scheduled or itinerant operation may require additional airway and airport aids to navigation. It is expected that the communications needs for non-scheduled and itinerant aircraft will be met by assignments in the Very High Frequency band."

Domestic Scheduled:

The needs of aviation services in the second category (domestic scheduled) are classified as follows: (1) needs for communications purposes in the High Frequency bands for flight control and long distance operations; (2) needs for control communications in the VHF band for weather, position reports and other services, and (3) needs for frequencies throughout the spectrum between 200 kilocycles and 10,000 megacycles for air navigational aids.

Needs in the international field are (1) needs for communications in the High Frequency band encompassing flight control, traffic control, weather and other

XUM

Recommedations to FCC for Aviation Radio Frequency Allocations

Aeronautical Mobile Communications

	Frequency Band	Band Width	No. Channels	Channel Width	Service
1.	2912-3240 kc.	328 kc.	40	8 kc.	Long distance communications and flight control.
2.	5570-5850 kc.	280 kc.	27	10 kc.	"
3.	6480-6730 kc.	250 kc.	24	10 kc.	"
4.	7960-8200 kc.	240 kc.	23	10 kc.	"
5.	8990-9220 kc.	230 kc.	22	10 kc.	Long distance communication, international service only.
6.	11780-11975 kc.	195 kc.	12	15 kc.	"
7.	118-122 mc.		20	200 kc.	Airport traffic control communications.
8.	122-132 mc.		50	200 kc.	Aeronautical mobile communications.
9.	1500-1600 mc.		50	2 mc.	Experimental aeronautical mobile.

Aeronautical Fixed Communications

	Frequency Band	Band Width	Channel Width	Channels	Service
1.	30-200 kc.	7 kc.	1000 cycles	6	Polar areas only.
2.	3400-3476 kc.	76 kc.	4 kc.	18	Aeronautical fixed.
3.	4500-4590 kc.	90 kc.	5 kc.	17	"
4.	5850-6010 kc.	160 kc.	5 kc.	31	"
5.	8680-8960 kc.	280 kc.	10 kc.	27	"
6.	11975-12260 kc.	285 kc.	15 kc.	18	"
7.	16005-16200 kc.	195 kc.	15 kc.	12	"
8.	23200-23320 kc.	120 kc.	20 kc.	5	"

Air Navigational Aids

Position in Spectrum	Band Required	Service
Below 500 kc.	200-285 kc.	Air navigational aids.
	320-415 kc.	"
1500-2000 kc.	1800-2000 kc.	Maritime and air navigational aids.
100-150 mc.	108-112 mc.	Instrument landing localizer.
	112-118 mc.	Airway radio ranges.
150-200 mc. (Temporary use until service no longer required.)	165-185 mc.	Air navigational aids.
500-1500 mc.	956-1125 mc.	"
	1450-1500 mc.	Meteorological and air navigational aids.
2000-2500 mc.	2300-2500 mc.	Air navigational aids.
2500-4000 mc.	2700-3900 mc.	"
5000-30,000 mc.	4750-5750 mc.	Aeronautical experimenta.
	8500-10,000 mc.	"

communications with the exception of airport control; (2) needs for communications in the VHF bands, primarily for airport traffic control; (3) needs for fixed communications channels to transmit between points of operation messages relating to safety of flight, the movement of aircraft, and efficient dispatching system requirements, and (4) needs for frequencies for air navigational aids which fall throughout the spectrum between 30 kc and 10,000 mc, depending on the characteristics and purposes of the various types of navigational aids.

If the Panel 11 recommendations are accepted, postwar aviation will gain many advantages. For example, instrument landing localizers would be in the 108-112 megacycle band (see accompanying table on frequency recommendations), VHF radio ranges in the 112-118 band, control towers in the 118-122 band and aeronautical communications in the 122-132 band. Because these frequencies are adjacent —occupying the entire band from 108 to 132—substantial improvement could be made in aviation radio equipment. Weight of equipment could be greatly reduced by having one unit handle all communications work, both with control towers (118-122 megs.) and Aeronautical Radio stations (122-132). At the same time, another receiver unit would handle both radio ranges (112-118) and localizers (108-112).

Rentzel emphasizes the importance of reducing weight and combining units by pointing out that transport planes in the near future will have up to 10 different pieces of weight-consuming radio equipment aboard.

That postwar radio aids that will increase tremendously the safety of flight will be available is seen in the Panel 11 testimony:

"As additional navigational aids, to prevent collision with other aircraft and with mountainous terrain, when operating through clouds, fog, storm, during hours of darkness, or in other conditions of poor visibility, new devices are necessary. Such indications may be obtained by new and presently confidential methods which will be referred to as the Anti-Collision Indicator. This device should provide sufficient warning by indicating the presence of other aircraft or obstructions to the pilot and by indicating their distance and bearing so that they may be avoided.

"Another important aid, which will be used and required as soon as practicable, is the Automatic Position Reporting System. It will report the location of aircraft over fixed points along airways to Flight and Airway Traffic Control Points and thus provide information as to the extent to which aircraft in flight are occupying space along any given airway. Through this method, a safe separation between aircraft can be maintained, in addition to facilitating acceleration and improved efficiency of aircraft movements.

"Radio Altimeters are needed in scheduled aircraft to provide indication to the pilot of height above the terrain, to function as a navigational check, to indicate clearance above obstructions, and further to assist in the safe landing of the aircraft under adverse conditions. This instrument will also be of assistance in calculating wind drift in overseas operation."

Assisting Rentzel in the preparation and presentation of material for the FCC were Gordon O'Reilly, J. R. Cunningham, R. O. Smith, Carl Swanson and G. E. Mears, directors of communications for TWA, United, PCA, Northwest and American, respectively. All are directors of Aeronautical Radio Inc.

Aviation Calendar

Oct. 16-19—Annual meeting, American Welding Society, Hotel Cleveland, Cleveland.

Oct. 20—Air Transport Association meeting, Washington.

Oct. 20—Institute of the Aeronautical Sciences, national air transport meeting, Hotel Statler, Washington (Postponed from Sept. 22).

Oct. 23—Representatives of Great Britain and Dominions meet in Montreal, Canada, preliminary to international air conferenence in U. S.

Oct. 25-27—Southwestern Aviation Conference, Amarillo, Tex.

Nov. 9-10—Fall meeting, Institute of the Aeronautical Sciences, Engineering Society, Dayton, O.

Nov. 13-14—Annual meeting National Assn. State Aviation Officials, Skirvin Tower Hotel, Oklahoma City.

Nov. 14—Meeting, board of directors NAA, 12:30 p. m., Skirvin Tower Hotel, Oklahoma City.

Nov. 15-18—National Clinic of Domestic Aviation Planning, Oklahoma City.

Dec. 4-6—SAE National Air Cargo meeting, Chicago.

Dec. 5-7—Aircraft Distributors & Manufacturers Assn. 2d annual convention, Hotel Jefferson, St. Louis.

Dec. 6-7—National Aviation Trades Assn., annual convention, Jefferson Hotel, St. Louis.

Dec. 17—Institute of the Aeronautical Sciences, the Eighth Wright Brothers' Lecture, U. S. Chamer of Commerce Auditorium, 5 p. m., Washington.

Jan. 8-12—1945 SAE annual meeting and engineering display, Book-Cadillac Hotel, Detroit.

Jan. 30-Feb. 1—Institute of the Aeronautical Sciences, 13th annual meeting, Pupin Physics Laboratory, Columbia Univ., New York City. Anual honors night dinner at Hotel Waldorf-Astoria precedes meeting.

Dewey Air Plan Opposed To 'Chosen Instrument'

GOP Candidate's Postwar Aviation Policy Revealed

IF THOMAS E. DEWEY should become President of the United States, his attitude on postwar aviation will be summed up in a nine-point program which includes opposition to the "chosen instrument," encouragement of feeder airlines, reduction of air mail postage rates, encouragement of private flying, and orderly re-employment of surplus aircraft workers, *American Aviation* has learned on reliable authority.

Campaign speeches on both the Republican and Democratic sides so far have not included any discussion of the important aviation field. The nine-point program which may be expected of the Republican candidate is summarized here for the first time as follows:

1. There shall be no "chosen instrument" philosophy governing U. S. participation in world air commerce. Properly regulated competition among U. S. commercial airlines for a share of the air business between the U. S. and other nations will foster a healthy economy and provide better service to the public than could be expected from a private monopoly or a system employing heavy government subsidies, it is believed.

'More Forceful' Policy

2. There will be a more forceful international air policy on the part of the State Department, so that U. S. aviation may have fair opportunity throughout the world.

3. Provision shall be made to encourage and assist the development of small feeder airlines in the commercial airline system of the country, and to encourage small businessmen to participate in their operation.

4. Air mail postage rates, now producing large government profits, shall be reduced and air mail routes shall be extended, simultaneously with the healthy and economic development of airline operations.

5. There shall be appropriate provision for an adequate and up-to-the-minute air force and air reserve to protect the nation and to help preserve international peace.

6. There shall be a consistent, forceful campaign against excessive Federal regulation of airplanes and pilots and against Federal red tape hampering aviation generally.

7. There shall be a sustained and well-planned program to foster small airport development and to encourage private flying.

8. In view of the fact that cutbacks in aircraft manufacture are inevitable as hostilities subside, adequate provision for orderly reemployment of surplus aircraft workers will be made by the Federal government in cooperation with business and industry. Disposal of surplus factories, equipment and raw materials on a sound economic basis must be accomplished in the shortest possible time after the war is won.

9. Encouragement shall be given to the technical and scientific research and practical development by aircraft engineers and manufacturers, so as to maintain our position as world leader in the field of aviation.

Institute Announces Program For National Air Transport Meeting in Capital Oct. 20

Recent developments in the field of air transport will be discussed in papers to be presented by aeronautical specialists at the National Air Transport meeting of the Institute of the Aeronautical Sciences to be held in Hotel Statler, Washington, D. C., Oct. 20.

Two separate sessions will be held, one commencing at 2 p.m. and the other at 7:30 p. m. J. Parker Van Zandt of the Brookings Institution will be chairman of the first session. T. P. Wright, Civil Aeronautics Administrator, will act as chairman of the evening session.

Four papers are scheduled to be presented during the afternoon session: Maj. Albert E. Blomquist, AAF, "A Study of Possible Glider Uses in Commercial Operations"; Hugh B. Freeman, Consolidated Vultee Aircraft Corp., "A Review of the Aerodynamics of Flight Load Factors in Relation to the Safety Regulations"; A. D. Neal and W. L. Spielman, Curtiss-Wright Corp., "Explosive Release Mechanisms for Air Cargo," and James G. Ray, Vice President of Southwest Airways Co., will speak on Developments in Feeder Line Operations.

At the evening session Jay Downer, Consulting Engineer, will present information about the New York Idlewild Airport. "New Developments in Air Traffic Control" will be explained by Glen A. Gilbert, Chief, Air Traffic Control Division, Department of Commerce, CAA; William H. Hall, Transatlantic Division Engineer, American Airlines, Inc., will give recent developments in "Emergency Equipment for Commercial Transoceanic Flight Operations," and Maj. W. T. Harding of the U. S. Army Air Forces will present a paper on "Lighting Equipment for Adverse Weather Operations."

State Dept. Names Civil Air Attaches

The State Department last fortnight was completing details on the appointments of two civil air-attaches as part of its program to have aviation representatives in key foreign capitals.

Pierrot

A. Ogden Pierrot has been appointed civil air attache at Lisbon and Madrid, and Charles Howe has been named to a similar post in Rio de Janeiro. Appointment of Livingston Satterthwaite to London has been previously announced.

Pierrot has been Washington representative of McDonnell Aircraft Corp., prior to which he served with WPB's aircraft production unit. At one time he was connected with the U. S. embassy in Rio de Janeiro.

Howe is with the Defense Supplies Corp., aiding in the development of airlines in Brazil.

Appointments of civil air attaches in Ottawa, Mexico City and Cairo are expected shortly.

(Story on Page 26)

Explains Aero Chamber Policy Joseph T. Geuting, chairman of the Personal Aircraft Council of the Aero Chamber, is shown (center) explaining to William A. M. Burden, Assistant Secretary of Commerce (second from left), highlights of the Council's Statement of Policy on Freedom of Personal Flight. The statement was presented to Burden; Theodore P. Wright, CAA Administrator (second from right); and L. Welch Pogue, CAB Chairman (extreme right), in a ceremony Oct. 5. At left is John E. P. Morgan, manager of the Personal Aircraft Council.

Air Conference to Be Held in Chicago; Agenda Released

Britain, Dominions Hold Preliminary Meeting in Canada

AS THE NOV. 1 international aviation conference drew closer, there were developments last fortnight on both sides of the Atlantic emphasizing the importance with which the meeting is viewed.

In the U. S. the State Department released a detailed proposed agenda for the conference. While the agenda contained little that was new and little that had not already been said in the original State Department announcement of the conference, it served to impress observers with the magnitude of the task confronting the delegates.

Detailed discussion and differences of opinion are expected on some points in the agenda. Point 2(e) on "frequency of operations," for example, may bring into the open long-standing differences on whether or not frequencies should be controlled.

Many Acceptances Received

The conference will be held in the Stevens Hotel in Chicago, the State Department revealed Oct. 7, after considering several cities, including New York and French Lick, Ind. Acceptances to the invitations sent out to 55 countries were said to be coming in nicely, but no list had been released. Great Britain was among those accepting.

From the other side of the Atlantic it was revealed that representatives of Britain and the Dominions will hold a meeting in Canada on Oct. 23 to discuss aviation matters as a preliminary to the conference. British sources emphasized that the meeting was not for the purpose of "ganging up" on the U. S., that it was being held to discuss air routes to be flown by individual members of the Empire—a point which necessarily must be decided before the conference.

In England, the aviation pot was boiling. An important debate was scheduled for Oct. 12 in the House of Lords—a debate so important that the government asked for a week's delay from Oct. 5 when it became evident that opposition to government policy was reaching new heights. As this issue went to press, cables from London indicated that critics of the government were winning out in pre-debate maneuvering.

The full text of the aviation conference agenda released by the State Department follows:

I. Arrangements covering transitional period: Establishment of air transport services on a provisional basis.

1. Arrangements for routes and services to operate during a transitional period.

2. Drafting of agreements to implement the provisional route pattern and to guide operations during transitional period.

(a) Landing and transit rights to permit establishment of provisional air services as soon as possible.

(b) Right of technical or non-traffic stop.

(c) Application of cabotage.

(d) Use of public airports and facilities, on a non-discriminatory basis.

(e) Frequency of operations.

(f) Bona fide nationality of air carriers.

(g) Control of rates and competitive practices.

3. Arrangements for and selection of continuing Committee on Air Transport to serve during the transitional period.

II. Technical standards and procedures.

1. Recommendations for setting up and adopting standards and procedures in the following fields:

(a) Communications systems and air navigation aids, including ground markings.

(b) Rules of the air and traffic control practices.

(c) Standards governing the licensing of operating and mechanical personnel.

(d) Airworthiness of aircraft.

(e) Registration and identification of aircraft.

(f) Collection and exchange of meteorological information.

(g) Logbooks and manifests.

(h) Maps.

(i) Airports.

(j) Customs procedure.

2. Arrangements for and selection of a Technical Committee and subcommittees to serve during transitional period, and to draft definite proposals for submission to the interested governments.

III. Multilateral Aviation Convention and International Aeronautical Body.

1. Formulation of principles to be followed in:

(a) Drawing up a new multilateral convention on air navigation and related subjects.

(b) Establishing such permanent international aeronautical body as may be agreed on, and determining the extent of its jurisdiction.

2. Arrangement for and selection of a Committee on Multilateral Convention and International Body to serve during transitional period and to draw up definite proposals for submission to the interested governments.

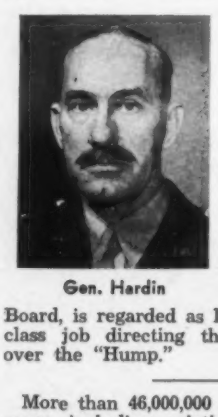
IV. Consideration of establishment of Interim Council to serve during a transitional period which might supervise the work of other committees functioning during this period; and performing such other functions as the conference may determine.

1. Recommendations concerning locale, composition, and scope of Interim Council.

2. Length of transitional period, mechanism for converting recommendations of Interim Council and its committees into permanent arrangements, and other arrangements covering the transitional period.

Gen. Hardin, Commander India-China ATC, in U. S.

Brig. Gen. Thomas Hardin, who for a year was commanding general of the India-China Wing of the Air Transport Command, is back in the United States. He is spending a brief leave at his home in Texas, and will be in Washington shortly probably to receive a new assignment in the continental United States.



Gen. Hardin

General Hardin, an airline executive for many years and formerly chairman of the old Air Safety Board, is regarded as having done a high class job directing the ATC operations over the "Hump."

More than 46,000,000 pounds of military cargo, including aviation gasoline, munitions, trucks, jeeps and other war materiel, were flown across the Himalayas from India to China during one recent month by the India-China Division of the AAF Air Transport Command, the War Department announces.

This lift of better than 23,000 tons was marked by a particularly outstanding day, designated as "Tom Hardin Day" in honor of Brigadier General Thomas O. Hardin, who commanded the Hump route until recently.

Beaverbrook May Quit Aviation

Reports from London last fortnight hinted that Lord Beaverbrook who has guided British civil aviation policy during the war and who represented Britain in discussions with the U. S., may shortly relinquish his aviation duties. Whether this might occur before or after the forthcoming international air conference was not known.

Swinton's Selection Gives Aviation Place In British Cabinet

Viscount Swinton, government trade and aviation authority, has been named Civil Aviation Minister in a new British Cabinet post, it was announced on Oct. 5.

The new minister will explore and plan Britain's role in civil aviation, particularly the international and imperial aspects, it was said.

The appointment is viewed with great importance, coming only three weeks before the international aviation conference in Chicago. Critics of the British government's aviation policy—or lack of policy—have been attempting to force the issue of more representation for aviation, and it is felt that the appointment may be the outcome of their efforts.

'Airfreight' Rates As Much As 53% Under Air Express

AA's New Service Broadens Scope of Cargo Movements

AMERICAN AIRLINES new Airfreight plan, which was slated for system-wide inauguration Oct. 15, considerably broadens the scope of air freight service as it was known heretofore, and establishes reductions ranging to 53% under present air express rates of the Railway Express Agency for certain commodities.

American officials explained, however, that the object of the new freight service is to move shipments in volume rather than in small packages as sent by REA's air express, and that since there are no rates available on shipments weighing less than 25 pounds for Airfreight, "this should prove to be a complement rather than competition for Air Express." American also emphasizes that the new service is predicated upon first serving priority business, and that whatever space is left over will be used for new business.

Among the many innovations provided in the service is a pickup and delivery system by truck. This move gathers significance in the fact that it will extend the Airfreight service to more than 300 communities in addition to American's 43 certificated points, some of which will serve as consolidated Airfreight stations.

The consolidated freight terminals are operated entirely in the name of American Airlines, with the trucking company serving as agent with instructions by American to make pickups and to transport goods to the airport. Shipments are received on American Airlines bills of lading and billed on American waybills. After arrival at the destination, the local trucking company there serves as agent, delivering the shipment to the consignee and accepting a receipt for AAL.

Two Types of Rates

A study of American's Airfreight structure, as filed with the CAB, shows that two types of rates are proposed—commodity rates, which are restricted to agricultural items and newspapers, and a rate scale-classification. Pickup and delivery services are included in the latter rate structure.

The pickup and delivery service has been worked out through arrangement with established motor carriers to co-ordinate their services with the Airfreight service. Joint, through rates with motor carriers have not been published, but as the service develops and their need becomes apparent, such joint rates will be established.

"In every instance, American has made use of existing facilities and has not in any manner attempted to invade the surface transportation field," American spokesmen said. "In the seven largest cities on American's system, the pick-up and delivery telephones, though listed in the name of American and owned by American, are installed on the premises of the cartage agent in order that the most expedited service possible can be rendered to the shipping public."

The pickup and delivery service will mean that a community within a 15 mile-radius of one of American's certificated stops will be afforded the same service and the same rates as those provided for the airport city itself. In the case of air express moved by Railway Express, this is a comparatively limited practice.

At Boston, for example, Railway Express specifically provides air express service at no extra cost to only two outlying communities. American will provide pickup and delivery service to 18 communities within the 1015-mile radius of Boston at the Boston air freight rate.

American's Airfreight tariffs also provide an allowance of 20c per 100 pounds of actual weight, with a minimum of 20c, in lieu of pickup and/or delivery at the airport. In localities where consolidated stations are maintained, American will make an allowance of 10c per hundred, with a minimum of 10c, in the event the pickup and/or delivery service is not utilized.

One-Man Articles Only

The Airfreight rates provide for only one pickup and delivery, however, and apply only to such articles as ordinarily can be handled by one man. If single pieces are such as to require more than one man for loading or unloading, the consignor or consignee must furnish the additional men necessary to handle the piece. Should American be required to furnish extra help for loading or unloading, it will be charged at a rate of $1 per hour, with a minimum service charge of $5 for each man furnished.

Should more than one delivery be required for a shipment, the additional deliveries will be made at a rate of 20c per hundred pounds, with a minimum charge of 50c. Pickups and deliveries will be made every day except Sunday.

The commodity rates on agricultural commodities, which include fruits, vegetables and berries other than frozen in straight of mixed shipments, do not include pick up and delivery service. The rates are quoted on a minimum of 5,000 pounds.

Rates on this type of commodity vary from $11.20 per 100 pounds to $34.70. Following are a few typical examples of freight rate charges based on a per-hundred-pounds basis:

Dallas-Chicago, $11.20; Dallas-Boston, $19.80; Dallas-Washington, $14.90; Los Angeles-New York, $32.20; Los Angeles-Chicago, $22.30; Los Angeles-Oklahoma City, $14.90; San Antonio-Providence, $13.00; Boston-Los Angeles, $34.70.

Commodity rates on newspapers range from $2.90 per hundred pounds to $8.70, based on a minimum of from 50 to 5,000 pounds. The 50-pound minimum is applicable only to certain Texas points on shipments originating out of Ft. Worth-Dallas.

The rate structures show, for example, that the hauling of newspapers between New York and Boston at a minimum of 5,000 pounds move for $2.90 per hundred. A minimum of 2,500 pounds is required between New York and Cleveland, calling for a rate of $7.05 per hundred, while newspapers moving between New York and Detroit move for $8.70 per hundred under a minimum of 1,000 pounds.

Premium spinach, more than 500 cartons of 10-oz. cellophane-wrapped packages of it, was loaded aboard an American Airfreighter last month for delivery to Kroger Food stores in Cincinnati. It was fresh from Southern California's spinach farms.

The special "Texas" rate calls for a 50-pound minimum between Dallas-Ft. Worth and Abilene at a rate of $3.00, while the same weight between Dallas-Ft. Worth and San Antonio is $4.70.

The bulk of American's freight rates, however, fall under the rate scale-class structure, with the haulage charges based primarily on distance carried. Air freight classifications fall into four categories—A, B, C, and D. For example, furs are classified as A freight, china as B, fresh oysters as C, and cigars and cigarettes as D.

The rate scales run from 10 through 75. Air freight moving from Joplin, Mo., to Abilene, Tex., for example, takes rate scale 10; from Memphis to Cleveland, rate scale 15; Big Spring, Tex., in Indianapolis, Ind., rate scale 30; San Diego to Joplin, rate scale 45, and San Diego to Boston, rate scale 75.

Class A $15.50 Per 100

Under rate scale 10, class A freight would move at $15.50 per hundred pounds; class B at $13.40, class C at $11.30 and class D at $9.20. Under rate scale 75, class A would move at $71.60 per hundred, class B $62.00, class C $52.30, and class D $42.60.

In addition to these base rates, the freight tariffs are broken down to include charges for shipments by pound graduation, beginning with 25 pounds and under. Under rate scale 10, for example, 25 pounds or less of class A freight would move for $4.34, class B for $4.14, class C for $3.84, and class D for $3.59. Under the same breakdown for rate scale 75, class A freight would move for $19.45, class B $17.50, class C $15.75 and class D $14.20.

The following tables show a comparison of American's proposed freight rates with present air express rates of the Railway Express Agency between representative points in each AA scale bracket, using 100-pound and 10-pound shipments to indicate the range:

	American Airlines				Railway Express
	Rate Per 100 lbs. Shipment				Rate Per 100 lbs. Shipment
	Class A	Class B	Class C	Class D	
New York and Columbus	$15.50	$13.40	$11.30	$ 9.20	$17.50
New York and Cincinnati	18.00	15.60	13.10	10.70	21.00
New York and Chicago	20.50	17.70	15.00	12.20	24.50
New York and Nashville	24 20	21.00	17.70	14.40	28.00
New York and Memphis	28.00	24.20	20.40	16.60	35.00
New York and Little Rock	31.70	27.40	23.20	18.90	38.50
New York and Dallas	36.70	31.80	26.80	21.80	49.00
New York and Abilene	41.70	36.10	30.40	24.80	56.00
New York and Big Spring, Tex.	46.70	40.40	34.10	27.80	59.50
New York and El Paso	51.70	44.70	37.70	30.70	66.50
New York and Phoenix	56.60	49.00	41.40	33.70	80.50
Washington and Los Angeles	61.60	53.30	45.00	36.70	80.50
New York and Los Angeles	66.60	57.60	48.60	39.60	84.00
Boston and Los Angeles	71.60	62.00	52.30	42.60	84.00
	Rate Per 10 lbs. Shipment				Rate Per 10 lbs. Shipment
	Class A	Class B	Class C	Class D	
New York and Columbus	$ 4.34	$ 4.14	$ 3.84	$ 3.59	$ 2.19
New York and Cincinnati	5.10	5.00	4.75	4.35	2.50
New York and Chicago	6.03	5.90	5.65	5.40	2.81
New York and Nashville	7.53	6.98	6.43	5.88	3.12
New York and Memphis	8.14	7.89	7.04	6.64	3.74
New York and Little Rock	9.36	8.81	8.11	7.41	4.05
New York and Dallas	10.88	10.18	9.03	8.33	4.98
New York and Abilene	12.25	11.10	10.25	9.40	5.60
New York and Big Spring, Tex.	13.70	12.50	11.15	10.10	5.95
New York and El Paso	14.80	13.85	12.30	11.20	6.65
New York and Phoenix	16.20	15.10	13.55	12.00	8.05
Washington and Los Angeles	17.65	15.95	14.85	13.15	8.05
New York and Los Angeles	18.55	16.88	15.30	13.60	8.40
Boston and Los Angeles	19.45	17.60	15.75	14.20	8.40

Honored by Netherlands—Three Consairway flight personnel recently were awarded the Netherlands Flying Cross by order of Queen Wilhelmina. Netherlands Consul General G. W. Boissevain is shown making the awards to (left to right) Engineer Frank Basista, Navigator Hubert Huntington, and Radioman Rudolph Svoboda, who, in the period between Dec. 9 to 19, 1941, carried Gen. L. H. Van Oyen of the Netherlands East Indies Air Forces on an emergency trip.

Following is the complete list of air freight classifications filed with the CAB (alphabetical denotes classification; N.M. indicates no minimum poundage required):

Advertising displays—C—NM.
Aircraft parts—D—50 pounds minimum.
Ammunition (with exceptions)—A—NM.
Automotive parts—D—50 pounds.
Bees and Bee supplies—A—NM.
Bicycles and Parts—B & C—NM.
Biologicals—C & B—NM.
Books, printed matter—D—50 pounds.
Brushes—B—NM.
Chinaware—B—NM.
Cigars, cigarettes—D—NM.
Corpses—A—NM.
Corsets, Brassieres—B—NM.
Dies and die sets—B—NM.
Dry goods and clothing—
  Packed to weigh more than 8 lbs. per cubic foot—B—500 pounds.
  Packed to weigh more than 12 lbs. per cubic foot—C—1000 pounds.
Electrotypes—B—NM.
Engines—
  Internal combustion—C—NM.
  Internal combustion parts—D—50 pounds.
Flowers, cut—A—NM.
  B—3000 pounds.
  C—4000 pounds.
  D—5000 pounds.
Fruits and berries (other than frozen)—C—500.
(Includes apples, apricots, blackberries, cantaloups, cherries, currants, dewberries, grapes, honeydew melons, loganberries, nectarines, peaches, pears, Persian melons, plums, raspberries, strawberries, youngberries).
Furs—A—NM.
Compressed gases (in cylinders)—C—NM.
Gold or other precious articles—A—NM.
  (Includes art, currency, jewelry).
Inflammable liquids—A—NM.
Machinery and parts—electrical machinery—C—NM.
  Machines and Machine parts—D—50 pounds.
Motion picture films—B—NM.
Motorcycles and parts—Motorcycles—C—NM.
  Motorcycle parts—D—50 pounds.
Musical instruments—B—NM.
Newspapers, Magazines—D—50 pounds.
Novelties and Notions—B—NM.
  (Includes clocks, imitation jewelry).
Office machinery and equipment—Typewriters—C—NM.
Office machinery—D—50 pounds.
Oils (perfumes and flavoring)—B—NM.
Oysters, clams, lobster (fresh)—C—NM.
Paper (blueprint and sensitized)—C—NM.
Phonograph Records—B—NM.
Photographic Supplies—Cameras, Motion Picture Projectors—B—NM.
  Film, unexposed—C—NM.
Poultry (baby chicks, turkeys)—B—NM.
Professional and Scientific Instruments—B—NM.
Radio parts—B—NM.
Rubber goods—Elastic fabrics—C—NM.
Hot water bottles—B—NM.
Surgical supplies—C—NM.
Shoes—Ladies—B—NM.
Mens—C—NM.
Silverware—C—NM.
Sporting goods—Fishing rods, reels, tackle—B—NM.
  Golf and tennis balls—C—50.
Stationery or supplies—B—NM.
Telephone and telegraph supplies—C—NM.
Toilet preparations—D—50.
Hand tools—C—NM.
Vegetables, fresh, not frozen—C—500.
Yarn—C—NM.

128 CAA Scholarships Awarded In 19 Latin-American Nations

THE CIVIL Aeronautics Administration's "good neighbor" policy with neighboring American republics moved apace last fortnight with the announcement that applications were being received in 19 Latin American countries for 128 scholarships for the CAA's fourth Inter-American training program.

Financed by the State Department, the training program offers a year's aviation training in the U. S. for 19 pilots, 37 mechanics, 35 technicians in communications and traffic control, and 37 internes who will receive on-the-job instruction with airlines, airport managements, or other aviation enterprises.

Closing date for applications is Nov. 15. Examinations will be given Dec. 1, with successful candidates expected to report in this country about Feb. 1. Selection will be made by committees in each republic.

Currently receiving training in the U. S. under the third CAA program are 31 pilots at Purdue Aeronautics Corp., West Lafayette, Ind.; 44 technicians at CAA regional headquarters, Kansas City, Mo.; and 66 mechanics at Spartan School of Aeronautics, Tulsa, Okla. Upon completion of training they will return to their respective countries—as 520 CAA trainees from other republics already have—and aid in aviation development.

Carrying forward another phase of CAA cooperation with American republics, Cloyce Tippett left Washington Oct. 6 for Brazil, where he resumed work as a consultant to the Director of Civil Aeronautics. He is assisting in the standardization of flight instruction and maintenance methods in Brazilian civil aviation. With John Evans and John Hammett as aides, he is instructing Brazilians along the lines which proved successful in the Civilian Pilot Training Program conducted by the CAA in the U. S. from 1939 to 1942. Chief field of activity is the Aeroclubs, government sponsored organizations whose members are on call by the Brazilian Air Force.

Meanwhile, in Mexico, a CAA Mission, headed by Olin K. Haley, assisted by John R. Moore and David Register, is advising and assisting the Mexican Government in their civilian flight training activities. At Pueblo, Mexico, a flight training school is in operation under the supervision of this group, which is providing elementary and secondary flight training for Mexican pilots. Two courses have been completed, and the third has just been inaugurated. At present there are 44 students in training at this Center.

The big battery of modern screw machines in this plant produces several different types of aluminum aircraft parts with the help of Gulf Cut-Aid. In the lower photo a Gulf Service Engineer (right) is shown consulting with the plant Superintendent on machining aluminum caps.

"With Gulf Cut-Aid we increased aluminum cap production *25%* —— tool life over *100%*"

says this Superintendent

GULF CUT-AID does a better job on aluminum than any other cutting fluid we've ever used," says this Superintendent. "With this outstanding new cutting oil we stepped up production of aluminum caps 25%, increased tool life well over 100%, and are getting better threads."

Gulf Cut-Aid consistently shows better results in cutting aluminum and other nonferrous metals!

In addition to its superior performance on this class of work, Gulf Cut-Aid has another important function—it's an effective energizer for other cutting oils, regardless of type or viscosity. When blended in the proper proportion with other cutting oils, depending upon job requirements, the use of Gulf Cut-Aid makes possible higher production speeds and results in improved finish, longer tool life, or both.

Call in a Gulf Service Engineer today and let him show you how Gulf Cut-Aid and other Gulf quality cutting oils can help you with your production problems. Write, wire, or phone your nearest Gulf office.

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BACK THE INVASION . . . BUY MORE WAR BONDS!

Simplified Rules Outlined for Private Flying

Pilot's Permit Easy As Auto Driver's License Proposed

By W. L. Russell

EXTENSIVE RELAXATION of governmental regulations to provide greater freedom for the development of private flying has been recommended to federal aviation officials by the Personal Aircraft Council of the Aeronautical Chamber of Commerce.

The Council believes "it should be the right of any American to be able to obtain a pilot's certificate with no greater relative difficulty than in getting an auto driver's license."

The proposed policy was presented to William A. M. Burden, assistant secretary of commerce; L. Welch Pogue, chairman of the Civil Aeronautics Board; Theodore P. Wright, administrator of the Civil Aeronautics Administration; and members of the Senate and House aviation subcommittees, by Joseph T. Geuting Jr., Council chairman and vice president of the General Aircraft Corp., on Oct. 5.

The recommendations also asked that rules governing aircraft type certification be redrafted, as "the present airworthiness requirements have added costs to the public in the original price of a personal plane which are far out of proportion with actual safety needs." The Council's suggestion is that the trend should be to rely more on the manufacturer's responsibility for design and production practice and less on the Government, pointing out that the auto industry has achieved world leadership in design and production practice "through industry initiative, unhampered by Government regulation."

The Council urges a reduction of "must" regulation to the enforceable minimum and the substitution of a code of best practice embodying "should" suggestions to govern the anticipated great expansion of personal flying in postwar days.

Simplification Great Need

The Council makes clear that it does not believe that the new rules which the Civil Aeronautics Board is preparing are simplified sufficiently to meet the public need. It stresses that the law under which civil aviation is administered should provide to the administrative agency a positive mandate not only to tolerate and police private flying, but actively to promote it.

The Council declares "it may well be that the plane's most important role will be as a private conveyance of the ordinary citizen, similar in social and economic importance to the auto. These are the ideas which should influence the framing of any Air Commerce Act."

The recommendations point out that such an act should contain:

"A statement that it is the intent of Congress to make the air spaces available to all persons for purposes of travel, and to encourage the use of aircraft by private individuals for their personal business, and pleasure.

"That all navigable air spaces be under uniform regulation.

"Use of aircraft in flight in connection with any crime to be a Federal offense analogous to the crossing of State lines in kidnappings or to the use of the mails to defraud.

"No airport built or maintained in whole or in part with public funds to exclude any type of traffic unless the community in question provides an equally satisfactory special field for personal traffic.

"Ownership and operation of airplanes not to depend on any condition or formality on which ownership and operation of an automobile does not also depend.

"The right to pilot aircraft to depend only on proof of ability to fly the aircraft with reasonable skill.

"Flight within the United States to be possible in a straight line from any point, without clearance, flight plan, permission or report, except that such flights are not to invade Special Airways, which are to be set aside within which flight may be subject to control, flight plan, permission and report, but these Airways to be so located that they will not obstruct free flow of unregulated flight. No prohibited areas except as created in each case by Act of Congress."

On the subject of a code of best practice, the Council urges:

"Our current air regulations contain many provisions which by their nature cannot really be 'musts' but are merely in the 'should' class. It is admitted that the intent of these regulations is usually right—that the pilot should indeed act as the regulations constrain him to act. It is also admitted that we need in aviation a strong influence compelling good practice and discouraging bad. But it is suggested that 'the law' (outright 'must' regulation which carries practically the full authority of a law) is not necessarily always the best way of exerting this influence.

"It is recommended, therefore, to gather into a 'Code of Best Practice' many recommended practices which are now outright regulations."

The Council concludes that "if the law provides a sort of Magna Charta for personal flying, and if the administrative agency accepts the idea of exercising some of the constraints through a semi-voluntary 'code'—then the problem of rewriting the actual regulations should not be difficult. The spirit—if not the actual contents—of the regulations would be largely determined by the existence of the 'Magna Charta' and the 'code.'"

Recommendations in this respect are:

Ownership and Maintenance of Aircraft—"We believe that existing laws with respect to the ownership of an auto or other property define the responsibility of the owner toward the general public.

Want Rules Re-drafted

"The regulations with respect to maintenance should be redrafted so as to impose no greater comparable burden on the personal aircraft owner than he now faces in the operation of his auto.

"It is suggested that the owner would be guided largely by the 'Code of Best Practice' and the code should provide for the reasonable obligations of ownership and maintenance."

Pilot Certification—"It should be the right of any American to be able to obtain a pilot's certificate with no greater relative difficulty than in getting an auto driver's license.

"A student desiring to make solo flights must obtain from the administrative agency a 'Learner's Permit.'

"Any individual holding a pilot's certificate may give instruction. Pilots giving instruction for hire must possess a (professional) commercial license.

"A student deserving to be certified as a pilot must pass a simple and realistic flight test.

"A new attack upon the problem of the ground school and theoretical knowledge tests is recommended. It is proposed that a sort of catechism be drawn up which would contain in question-and-answer form the things which we must teach a person in making him a pilot. A student recommended for a license would have to be able to pass a written test covering these questions and answers. The idea here is that in boning for the license the student would willy-nilly learn the most important facts. And if the questions are properly written the opposite would also be true—in finding out important things about flying, the most effective way might be to study this official question-and- answer booklet."

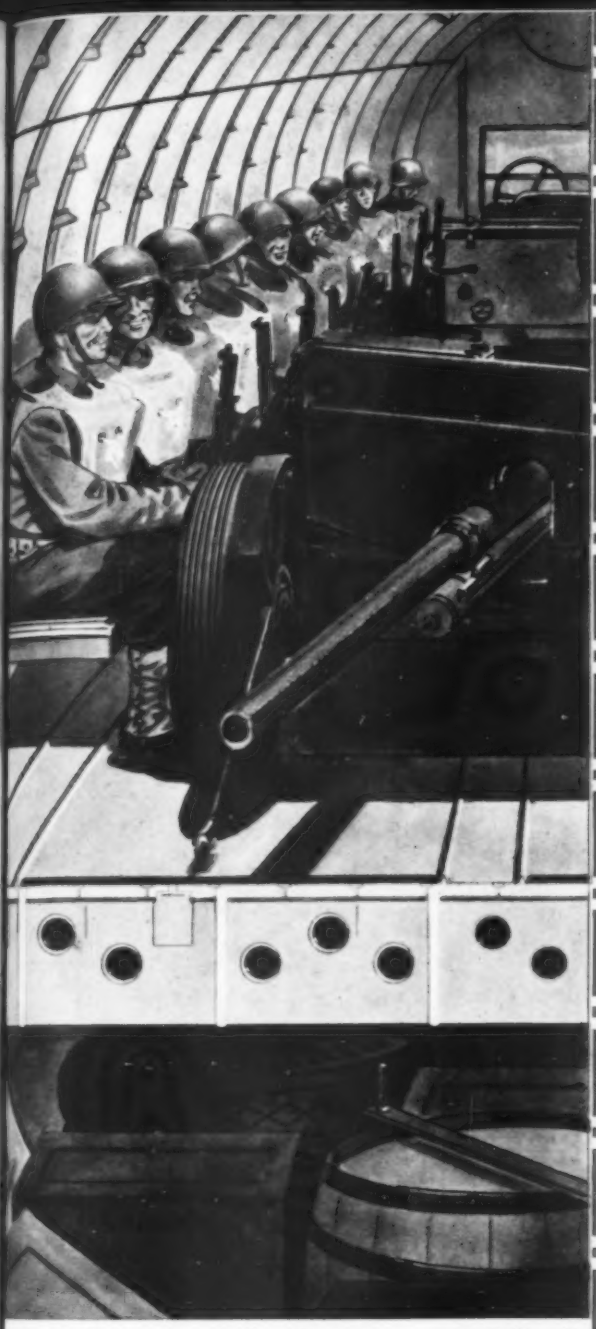
Traffic Rules—"A complete and thorough simplification of traffic rules should be undertaken by the Civil Aeronautics Ad-

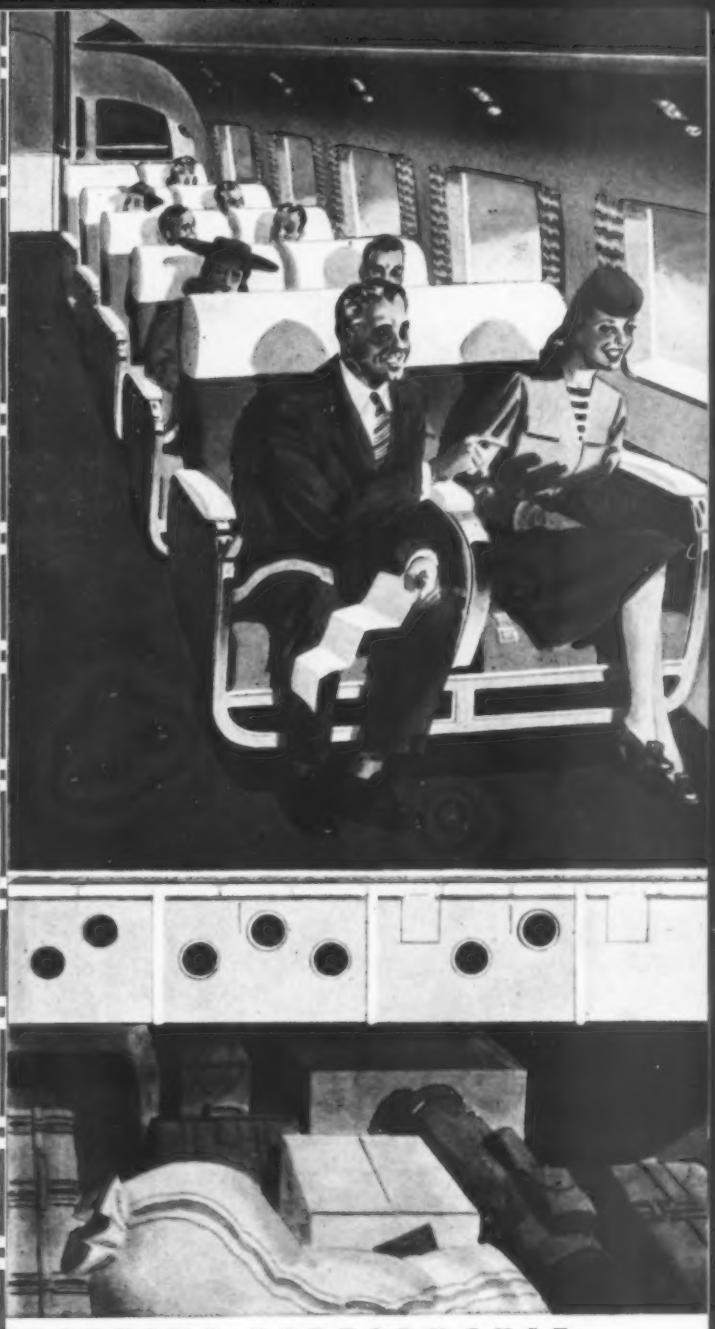
Capt. Wiesener, Norwegian Air Force Doctor, Touring U. S. Aero Medical Centers

Captain O. A. Wiesener, Chief Medical Officer, Royal Norwegian Air Force Training Center, Toronto, Ont., is completing a six weeks' tour of military and civil aviation medical centers of the United States. While in Washington, D. C. he conferred with Dr. W. R. Stovall, Medical Director of the Civil Aeronautics Administration. Capt. Wiesener has been observing recent developments and collecting data for use in re-establishing the aviation medical facility of his country. He is deeply interested in the development of internationally acceptable physical standards for pilots.

Wiesener

Capt. Wiesener is a graduate of the U. S. Army Air Forces School of Aviation Medicine, Randolph Field, Texas, Class of 1941. Since completing this work he has served as Chief Flight Surgeon of the Norwegian Air Unit in Canada. Prior to that time he saw extensive combat service in the European and African theaters.





PROVEN IN WAR — FOR PEACETIME PERFORMANCE

In war the Curtiss Commando has established itself as a major instrument of transportation. It has hauled personnel and supplies of all types wherever the need has been critical—often under most unfavorable flying conditions.

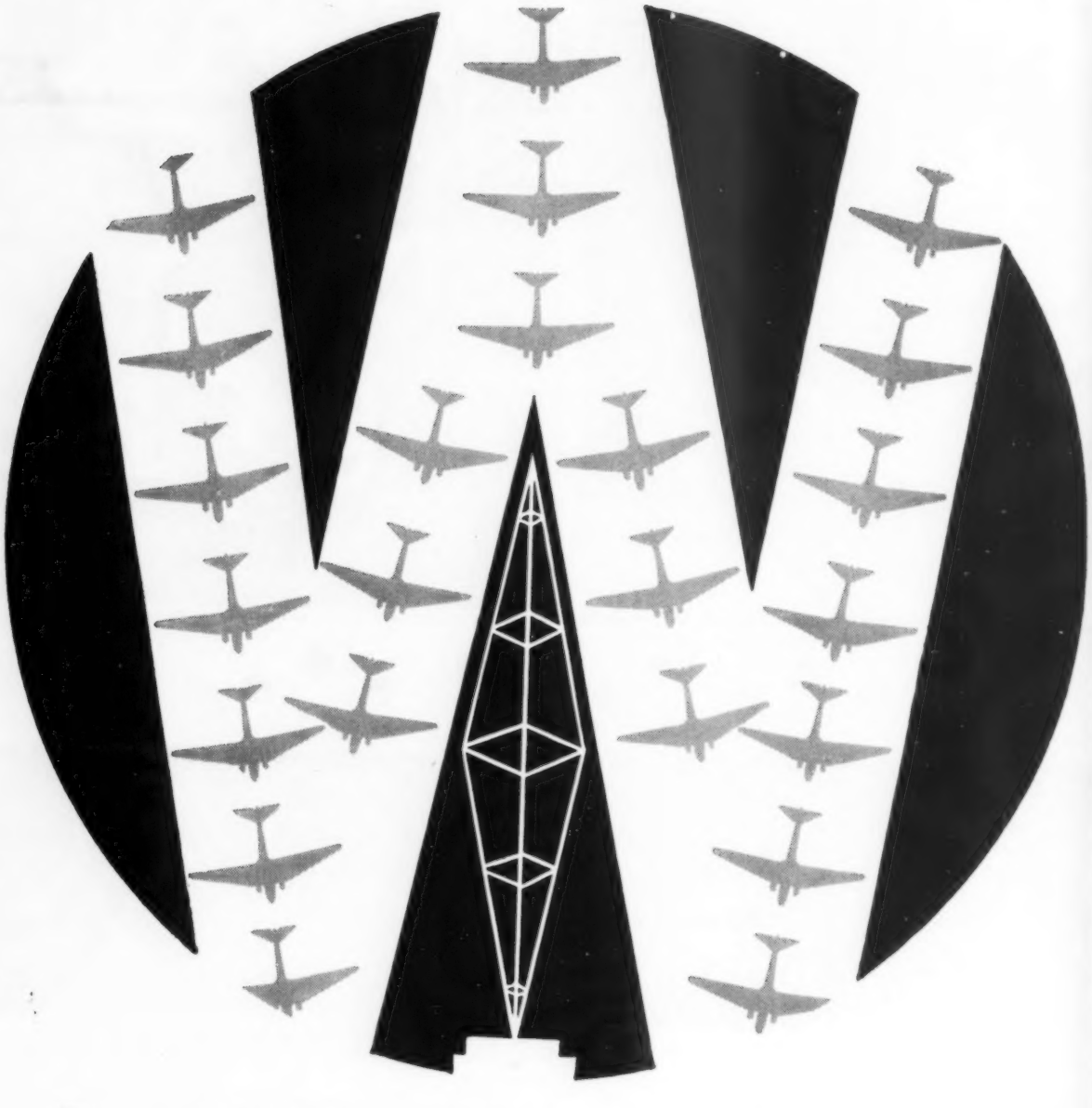
Evolved from an airline design, the Commando will be available for commercial operation as soon as the strategy of war permits. Its conversion into a luxury airliner or a cargo carrier will be speedy. This will help to bridge the gap between war and peace by providing jobs for the men and women who build and operate these transport airplanes. Look to the Sky, America!

Curtiss-Wright Corporation, Airplane Division.

Curtiss Commando

Low Bidder For Tomorrow's Air Commerce

World-Wide Radio Communications



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Today, Wilcox Aircraft Radio, Communication Receivers, Transmitters and other advanced radio equipment are in use in all parts of the world, helping make possible the sustained and mighty air attacks against the Axis. And for many years, the major commercial airlines of the United States have relied upon Wilcox dependability in their daily operations. In the post-war period you can rely on Wilcox to retain its dominant position in the field of Radio Communications!

WILCOX ELECTRIC COMPANY

Manufacturers of Radio Equipment

Fourteenth & Chestnut, Kansas City, Mo.

ministration immediately, in order that the greatest possible freedom of the air may be given to the greatest number of the American public.

"It is recommended that contact weather limits be lowered off-airways to reduce the weather handicap.

"A possible revision which we offer for study incorporates the following changes:

(1) "A marked distinction to be made, regulationwise, between Regulated Airspace on the one hand, comprising Civil Airways and Control Zones, and Unregulated Airspace on the other hand, comprising all other airspaces.

(2) "The Civil Airways to be elevated, so that the lowest layer of airspace would become Unregulated Airspaces everywhere except in Control Zones.

(3) "Control Zones to be re-defined and probably extended by inclusion of Approach Channels.

'Rules Should Be Relaxed'

(4) "In the Unregulated Airspace, contact flight rules should be relaxed. Present clearance-below-overcast rules to be replaced by a rule: 'Stay sufficiently below overcast to remain visible to other ships flying below overcast in the same vicinity.'

(5) "Control of contact flight in Regulated Airspace to be keyed to a new system of weather classifications, featuring intermediate classes of weather, halfway between good Contact Weather and poor Instrument Weather, termed 'Caution Weather' and 'Radio Weather.'

(6) "Creation of an 'Airway Rating,' stressing not instrument flying, but sound radio and traffic procedure. The private pilot holding this rating, when flying an airplane suitably equipped with radio to be permitted in the Regulated Airspace in intermediate types of weather in which a holder of the plain private license would be excluded.

(7) "Control Zone traffic to be restudied in the light of war experience, with a view to devising standard procedures by which personal airplanes could enter Control Zones despite industrial smoke conditions which are now technically classified as Instrument Weather."

Installment Plan Set Up By West Coast Bank For Purchasing of Aircraft

A comprehensive plan for time-financing in the purchase of private planes, together with special financing services for various other phases of aviation, is announced by the Bank of America.

Under the plan, the purchaser of a $1,500 plane would pay one-third down and 12 monthly installments of $103.50 each. These payments would cover $183 worth of insurance and finance charges at the rate of $5 per hundred. In the case of used planes, the finance charge would be $6 per hundred.

Plans for financing, on a time basis, student, pilot or mechanic training, distributors and dealers in aircraft and aircraft parts, retail sales, credit investigation service, insurance protection, repair loans, and collection services also are announced. Similarly a plan has been set-up for financing arrangements between manufacturer and distributor.

Luncheon in London— Friends of Livingston Satterthwaite gave him a luncheon in London recently to mark his appointment as U. S. civil air attache in the British capital. Shown in the top photo are, left to right, W. P. Hildred, British Director General of Civil Aviation, and Satterthwaite. Shown in the next picture are Peter Masefield, technical adviser to Lord Beaverbrook, the Lord Privy Seal; Admiral Riiser-larsen, commander-in-chief, Norwegian Air Force, and Capt. Spry Leverton, London manager of KLM (Royal Dutch Airlines). In the bottom photos, on the left, are L. C. Carlberg, London manager of ABA (Swedish Airlines) and Col. M. M. Turner, U. S. military air attache. On the right are J. Hughes, of Martin Hearn Ltd., and Roderick Waugh, former public relations director of British Overseas Airways.

AAC PRECISION R

* The Pan American World Airways routes shown below are those in existence on December 7th, 1941. Present routes cannot be shown.

AAC Products

ARMY NAVY

AIRCRAFT PRECISION RADIO

Kansas City, Kans.

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RADIO PRODUCTS

Serve PAA

PAN AMERICAN WORLD AIRWAYS continues to perform a vital wartime service by speeding men and materials to every U. S. front and outpost... and AAC Precision Radio Products play an important part in this service.

As the giant *Clippers* spread their wings across the world, AAC Products help to maintain communications along the lifelines of this vast system which flies to every continent on the globe. These products are in use at operations bases, both here and overseas.

This is just one example of how the engineering and production skill of Aircraft Accessories Corporation serves the world's great airlines—as well as various branches of the armed forces. As one of America's largest producers of transmitters and other precision radio equipment, AAC offers the services of its Engineering Department in designing special equipment for you, without obligation.

ELECTRONICS DIVISION

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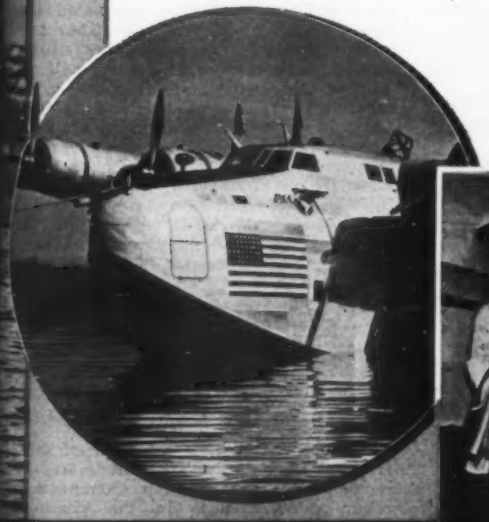

In war as in peace the PAA Clippers serve humanity. Here 1810 pounds of medical supplies go aboard at LaGuardia Field.

(E-54)

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WORLD'S OLDEST AIRLINE

CELEBRATES IT'S 25TH HISTORY MAKING YEAR!

On October 7th, 1944, K. L. M. ROYAL DUTCH AIRLINES marks a quarter of a century of International Air-Service. In those 25 years . . . breaking air-trails on 5 Continents, flying millions of miles, handling thousands upon thousands of passengers and tons of air-cargo . . . The Flying Dutchman has built a towering reputation for seasoned navigation and smooth efficiency!

YESTERDAY . . . these pioneer-pilots opened the direct Amsterdam to London run as early as 1919. By 1934, they had charted and established the West Indies Section, shortly after making the FIRST mid-Atlantic flight! They founded a peacetime network which spanned a far-flung Empire . . . with such through-service as Amsterdam to Batavia . . . 9,000 miles away.

TODAY . . . it's still the Flying Dutchman forging an air-link between the Americas, flying regularly between Miami, the West Indies, and South America.

TOMORROW . . . in the Brave New World To Come . . . K. L. M. will again blaze new air-trails . . . slipping easily into the sky to fly the flag of Peace to corners far and near!

K. L. M. ROYAL DUTCH AIRLINES

For reservations apply to any authorized agent or to K. L. M., 521 Fifth Avenue, New York 17, MU. 2-7894, Holland-America Line, 29 Broadway, New York 6, WH 4-1900 or Air Express International, Inc., Columbus Hotel Building, Miami, Tel. 2-1753.

Advisory Aero Commission Urged in North Carolina

The North Carolina Aeronautics Commission has voted to recommend to the state's General Assembly that a permanent, non-salaried Advisory Commission on Aeronautics be established in North Carolina with a view toward keeping the state in the forefront of aviation.

The commission would be empowered to: (1) promote and encourage aeronautics in North Carolina; (2) receive Federal grants and disburse them to the State's subdivisions; (3) cooperate with the Federal government in the furtherance of aviation; and (4) study aeronautics.

Also recommended was that the General Assembly "provide clear authority for all cities, towns, counties, and other governmental agencies to exercise the right of eminent domain for condemning land for the construction of airports and landings strips."

Present airport zoning laws should be amended so as to comply with the Civil Aeronautics Authority's standards and recommendations for airport zoning laws, the report stated. The Commission further recommended that the State "actively support Congressional aid for airport and landing strip construction and maintenance," and that the State Board of Education "include in its curriculum the study of basic aviation subjects, such as navigation, meteorology, and the theory of flight."

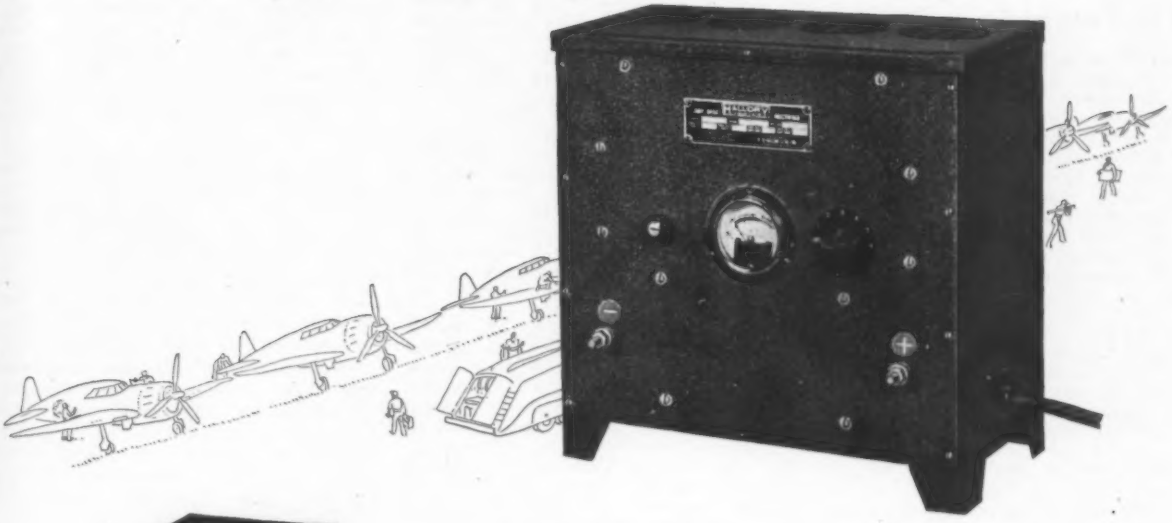
Many Vermont Industrialists Prefer Traveling by Plane

Five hundred and seventy-nine executives of Vermont industries plan to do most of their traveling after the war by some means of air transportation, a survey by the Aviation Section of the Vermont Motor Vehicle Department discloses. These executives estimated that they would, collectively, take 5,545 trips by air per year over distances usually 300 or more miles from home. Of the number, 24% will travel from 600 to 900 miles while 12% indicated they would travel on trips of 1,000 miles or more. The survey showed that executives and personnel of 87% of the factories interviewed plan to travel by air. More than 90% of those interviewed expressed a belief that local facilities, including an airport and possible feeder airlines, would help to stimulate air travel. Because of Vermont's rugged terrain, 64% would travel 20 miles to reach an airport, while an additional 23% were willing to travel 30 miles.

Extend AAF Training Period

Because the Army's reservoir of pilots is filled, the Army Air Forces has directed the AAF Training Command to retain pilot trainees in the phase of training in which they are currently engaged for an additional five weeks commencing October 16. All phases of undergratuate pilot training, including preflight, primary, basic, and advanced is affected. Ten weeks is the normal length of each of these phases.

Mallory Aviation Battery Chargers



Mallory aviation battery chargers answer the need for charging facilities located at various points within the hangar for charging 12 and 24 volt aircraft batteries, and along the starting ramp for recharging battery carts right on the field.

Dependable, economical and long-lived, Mallory aviation battery chargers operate noiselessly due to the use of Mallory "Time-Tried and Proven" magnesium copper sulphide dry disc rectifiers. They are compactly designed for quick and easy installation—merely plug the cord into any convenient 115 volt AC outlet, and instantly a source of steady DC power is available! They supply a high charging rate for completely discharged batteries — with an automatically decreasing rate as the battery becomes charged to protect and prolong battery life.

For complete information on full charging facilities for all aviation needs, see your Mallory distributor or write direct.

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Elkins Million-Dollar Airport Sets Pattern for Small Cities

West Virginia Town Of 10,000 Eyes Sky For Future Growth

ELKINS IS A BUSTLING agricultural community nestled among the hills near the main chain of the Alleghenies in northern West Virginia. Although the town's livelihood is linked to the soil, its eyes are turned toward the sky.

During the last fortnight, Elkins (population 10,000) dedicated an airport costing approximately $1,000,000. The new port is a stop for the big Douglas DC-3 transport planes of American Airlines on the Washington-Cincinnati route. The town also receives fast airmail service with nearby communities and the larger trade centers through All American Aviation's pioneering pickup service.

Elkins has gone all out for air because it, like so many other cities in mountainous areas, now realizes that it can be freed forever from the limitations of slow and tortuous surface travel by an instrumentality that does not need to skirt the mountains, tunnel under them or follow the valleys, but can fly over them.

Terrain Hems in Elkins

A traveler leaving Washington on a train at 10:10 a.m. is scheduled to arrive in Elkins at 7:30 o'clock that evening. The fastest bus schedule will get him there in 9½ hours. An auto can make the 226 miles in approximately five hours of safe driving. But a passenger can board an American Airlines plane at 9:09 a.m. and one hour and eight minutes later step off at Elkins.

That is the basic story behind the need for the Elkins' airport. And the story of Elkins, once the possibilities of air travel are fully explored, will be the story of many other American communities, particularly if their means of communication with the outside world is restricted by the terrain.

The fact that Elkins has a million-dollar airport and is the home of Rep. Jennings Randolph, a leading aviation enthusiast in Congress, is not mere coincidence. Rep. Randolph led the fight for the Federal funds which made the construction of this port, with its two paved runways 4500 feet long and 150 feet wide, possible. First improvements, in the early 30's, were started with WPA funds after Dice Harper, known as the "father of the airport project," had centered commercial flying operations there. Then after this country entered World War II and Congress appropriated funds for the development of a system of defense airports in the interior of the country, Elkins was selected as being eligible to share in these funds. During the previous years the Elkins city council had scraped together funds to help keep airport improvement going forward.

It was on March 4, 1935, that American Airlines started service there. R. G. Bush, managing editor of the *Elkins Inter-Mountain*, described this as an event comparable to the entry of the first railroad train into Elkins.

Most of the aviation dignitaries who went to Elkins Sept. 30 for the dedication ceremonies arrived by surface transportation. This was due to rain and fog. Traveling by the slower modes of transportation emphasized Elkins' need.

Lee Urges Broad Vision

Josh Lee, a member of the Civil Aeronautics Board, speaking at a dedication luncheon given by the Elkins Chamber of Commerce for visiting officials and members of the Civil Air Patrol, said that those who chart the course of aviation in the postwar era must not restrict their vision to slide-rule computations based on the conventional travel habits of the past.

Predicting a phenomenal growth in air travel, Lee said the airplane can become a great instrumentality for peace. Opposing the philosophy of the conservatives, Lee said that those in aviation who contend "we must keep our feet on the ground will never get us into the air." He said air transportation, free of the barriers that govern the routes of surface commerce, will out of its very nature develop and grow out of all proportion to the experience of public surface transportation.

In addition to the two companies now giving daily service to Elkins, Rep. Randolph said the town soon hoped to be on north and south routes of Eastern Air Lines and PCA, possibly others. American Airlines, because of heavy traffic out of Elkins, has added two flights daily to the town.

Fog, Rain, and Hills Fail To Halt Piper; He Gets There With Farmer's Aid

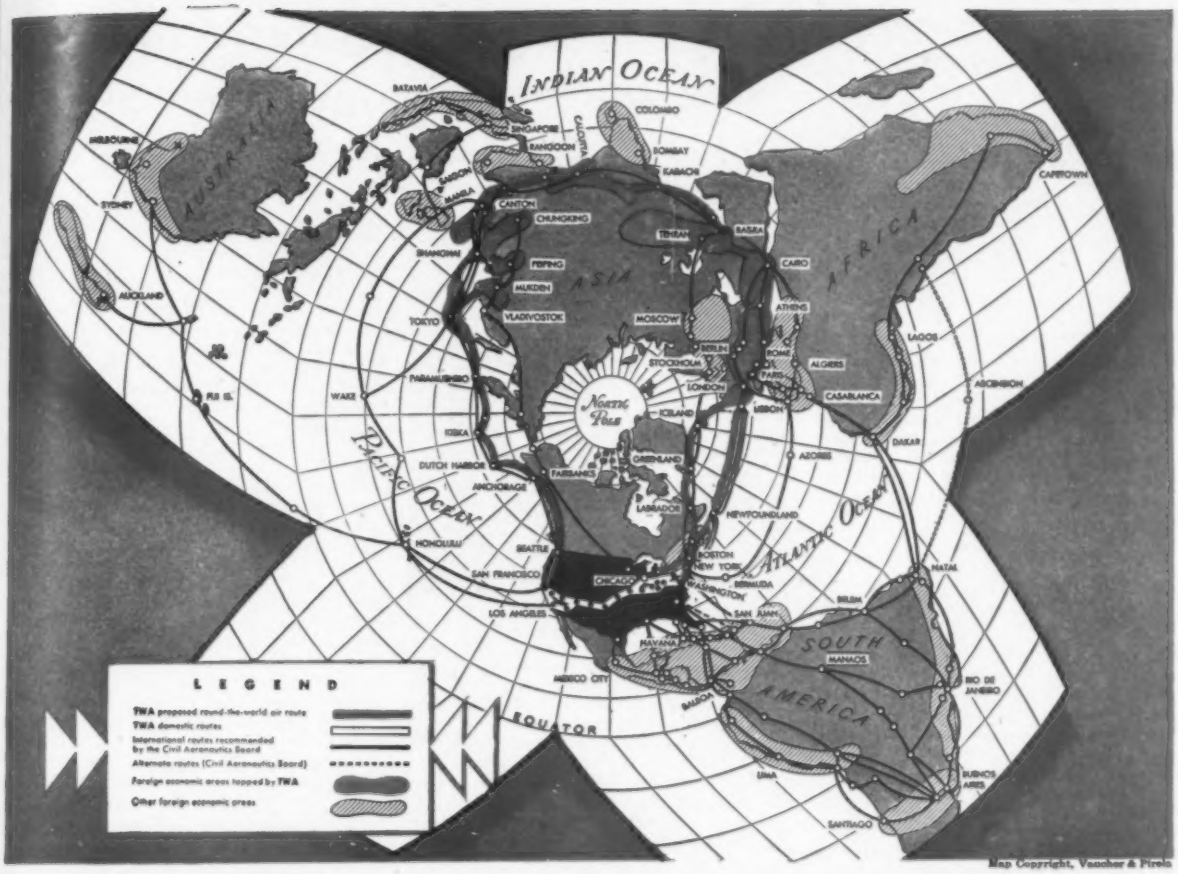
Fog and rain combined to dramatize the limitations of modern air transport in connection with the dedication of the million-dollar airport at Elkins, W. Va., Sept. 29 and 30. Only one plane got through for the first day ceremonies. Its pilot was William T. Piper, president of Piper Aircraft Corp., of Lock Haven, Pa. and with him was Mrs. Piper. Both are around 60 years of age.

Given an ovation when introduced at two airport dedication dinners, Piper explained that he landed his two-place Piper Cub on a mountain near Bayard, W. Va. From a farmer, he obtained information regarding the terrain ahead. Then when the mists lifted for a time, he took off from the side of the mountain and arrived safely in Elkins.

Speakers at the dedication emphasized that new technological developments, proved by war experience, soon would eliminate the greatest hindrance to reliability in scheduled air transportation —bad weather. Instrument landing facilities, plus instrument flight, will eliminate weather uncertainties in plane operations of the future and an airport dedication a few years hence need not be so helplessly dependent on the whims of the weatherman.

The airmail pick-up plane of All American Aviation, Inc., got into the Elkins Airport the second day of the ceremonies for its pickup operation and another small plane, used in connection

Piper Wins When Others Fail—The only persons reaching Elkins, W. Va., by air for the first day's ceremonies at the dedication of the town's million-dollar airport were William Piper, head of the Piper Aircraft Corp., Lock Haven, Pa., and his wife. It was youth vs age, and the older man won in the fight to conquer fog and rain. Mr. and Mrs. Piper landed their Piper Cub on a West Virginia mountainside, asked a farmer about the terrain ahead, then took off under the ceiling and reached Elkins in fine shape.



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The curtain rises on "Trans-World" Aviation

From TWA's 17,000,000 miles of international flying, touching 44 foreign countries and 5 continents, we offer a workable pattern for the sound development of United States international aviation:

It recognizes that competition between individual companies will foster international amity to a far greater extent than competition between nations and their chosen instruments.

It recognizes that, as a matter of history, new forms of transportation generate their own traffic. In other words, that airlines will create a new volume of traffic — not merely divide up the traffic that existed in the past.

It recognizes 26 areas of the world that are important enough to the economy, diplomacy and security of the United States to support trunk line air transportation.

The famous Constellation, conceived by TWA and built by Lockheed, makes this "trans-world" air service possible.

TWA seeks to serve 10 of these economic areas through a single, globe-circling route that will bring the farthermost point within 38 hours flying time of our borders.

In linking these 10 areas, and interlocking the entire 26, there is ample room for other airlines, both United States and foreign. Healthy competition of the kind that steadily improves service can be maintained.

Finally, this application contemplates the use of equipment now in production — men now trained — methods which are now maintaining international air transport on regular and dependable schedules.

In short, this route represents not a dream, but a blueprint. Not just an idea, but a carefully constructed plan for a world-wide air network that is certain to come.

This is the kind of "trans-world" airline that is now within this country's reach.

Jack Frye President

Transcontinental & Western Air, Inc.

TWA POINTS THE WAY

Capt. Piper Talks to His Cub

Capt. Thomas Piper, on reconnaissance duty with an Artillery unit in the war zone, landed his Piper Cub and then proceeded to give it a cussing for minor windshield trouble. A fellow officer, hearing the tirade and thinking of the identical names of pilot and plane, asked: "By the way do you know the Piper who makes this plane." Whereupon Capt. Piper replied: "Sure he's my old man."

with a parachute jump, also arrived safely. Many Washington officials, including William A. M. Burden, assistant secretary of Commerce, were grounded in Washington because of the weather. Burden was scheduled to make the dedication speech at the airport. American Airlines, got a plane into Elkins late in the afternoon.

NAA Charter Awarded Elkins, W. Va., Chapter

Coincident with the dedication of the Elkins, W. Va., airport Sept. 30 was the formation of the Randolph County Chapter of the National Aeronautics Association at a dinner meeting at the Elkins Country Club.

James A. Wilverding, manager of the Elkins Inter-Mountain News, was named president; W. H. Mason, vice president; Ruth Linger, treasurer; and Rep. Jennings Randolph (D., W. Va.) whose home is in Elkins, honorary president. Jack Frost, assistant manager of the National Aeronautics Association, presented the charter.

John F. Victory, secretary of the National Advisory Committee for Aeronautics, told of the Committee's work in developing engines and planes that have given the United States superiority in the air. His subject was: "America's Security—Keeping America First in the Air." He predicted that technological advances will greatly reduce the cost of trans-oceanic air transportation in the postwar era.

Short talks also were made by Don Seevers, executive secretary of the Feeder Airlines Association; W. T. Piper, president of Piper Aircraft Corp., and Gerard B. Dobben, of American Aviation Publications.

Renegotiation Dispute Taken to Federal Court

The U. S. Electrical Motors Inc., of Los Angeles, has filed a petition with the Tax Court of the United States against R.F.C., its subsidiary, the Defense Plant Corporation and officers of these agencies whose members constitute the RFC Price Adjustment Board claiming that the war contract renogotiation law does not apply to its operations and that DPC has no right to demand refund of "excessive war profits."

Point in issue is whether the law as amended applies to the company's business conducted and settled previous to the passage of the amendment which brought such business under the act.

Bailey Possible Appointee to Head Aviation Subcommittee in Senate

Present Congress Seems Unlikely to Get Clark Report

WITH THE ELECTION less than a month away, speculation is growing in aviation and Congressional circles as to whom will be assigned the important post of chairman of the Aviation subcommittee of the Senate in the 79th Congress.

Bailey

The chairmanship will become vacant due to the defeat of Sen. Bennett Champ Clark (D., Mo.) in the Missouri primaries. Sen. James Mead (D., N. Y.) who had been considered as a likely successor to Clark, appears out of the running by virtue of his assignment to the chairmanship of the important special committee which is investigating the National Defense program (formerly the Truman committee).

Because of the committee lineup over the controversial Chosen Instrument policy in international aviation, it is considered possible that the subcommittee membership may attempt to persuade Sen. Josiah W. Bailey, (D., N. C.) chairman of the Senate Committee on Commerce, to take the chairmanship. While inside sources state that Sen. Bailey is moving away from any thought of supporting the Chosen Instrument policy, there are those who feel that his standing in the Senate and the type of his personality offers the best hope for obtaining some semblance of committee accord on the important international question.

While committee members are understood to have made unofficial exchanges of opinions based on the extensive hearings on postwar domestic and international aviation policy, no report was issued and some Senators doubt that a report will be written or submitted during the present Congress. Congress will reconvene Nov. 14. There is little probability that a bill could be drafted upon which the report would be based during the remaining 45 days of the Congress. Logic is against it for the added reason that there would be little hope of action on such a bill before the new Congress convenes Jan. 3. The bill, of course, would die with the Congress.

The one possibility of earlier action appears to hinge about the outcome of the Presidential election. If a new national administration is elected Nov. 7, it is conceivable that legislation, implementing agreements which may be made at the International Aviation conference to be held next month, might be attempted.

At least one other change in the Aviation subcommittee personnel is certain because of the defeat of Mrs. Hattie Caraway (D., Ark.) in the Arkansas primaries. Two other members of the subcommittee —Senators Pat McCarran (D., Nev.) and Mon C. Wallgren (D., Wash.) are up for re-election.

Two Major Questions Being Considered In Redrafting Uniform State Air Bill

TWO IMPORTANT questions are being considered in the redrafting of the "Uniform State Air Carrier Bill." They are whether the proposed legislation should regulate intrastate contract carriers or non-scheduled operations, and whether the bill should take a stand on the status of surface carriers.

The legislation committee of the National Association of Railroad and Utility Commissioners is at work on the final draft of the bill which will be submitted to the annual convention of the Association in Omaha Nov. 15.

For assistance in reaching conclusions on the two main controversial issues, the committee invited representatives of the aviation industry to a conference in Washington at the Association headquarters last fortnight.

Chairman of the delegation of advisers invited to attend the meeting and make recommendations for the bill was William P. McCracken, Washington, of the Civil Aviation Joint Legislation Committee. His group urged elimination from the preliminary draft of the bill the phase which would impose state regulations on contract carriers or non-scheduled operators. The Association's committee also discussed at length the question of surface carriers. The Committee has not yet determined its specific policy in this regard, planning to confer with air carriers and others before the final draft of the bill is completed. The bill applies only to economic regulations of intrastate air operations, leaving other regulations to federal agencies.

Besides McCracken, those who appeared before the Association were: Arnold W. Knauth, Washington, of the committee on aeronautical law of the American Bar Assn.; William L. Anderson, Harrisburg, of the Pennsylvania Aeronautics Commission, and representing the National Association of State Aviation Officials; William C. Green, St. Paul, Minnesota assistant attorney general; Sydney Nesbitt, Philadelphia, of the Aviation Distributors and Manufacturers Assn.; John E. P. Morgan, Washington, of the Aeronautical Chamber of Commerce; and Howard Shafer, Philadelphia airport manager and representing the American Association of Airport Executives.

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Boring into the inky blackness, the P-61 Northrop Black Widow ferrets out the enemy with an electronic eye and delivers a torrent of cannon and machine gun fire.

As hefty as a light bomber, but with the agility of a single seat fighter — that's the "Black Widow." Like most other outstanding U. S. fighters, the P-61 uses Curtiss Electric Propellers.*

* P-38 Lightnings, P-47 Thunderbolts, P-40 Warhawks, P-51 Mustangs, P-39 Airacobras and Navy F4F and FM-2 Wildcats.

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CAB Cuts Lay-Overs

The CAB has ordered that scheduled stops within the continental U. S. shall not exceed 45 minutes on any flight if the origination or termination "of such flight at such point is prohibited by any restriction in the certificate." The order is effective Nov. 1, and Chief Examiner C. Edward Leasure said it is designed to control the carriage of local passengers by through carriers in areas of heavy competition.

WASP Program Terminated; Thousand Pilots Released

Release of the entire force of 1,000 WASPs, an organization of women military pilots which has figured prominently in recent Congressional debates, was announced Oct. 4 by Gen. H. H. Arnold. Organized in the fall of 1942 to assist largely in the ferrying of planes in this country, the WASPs have flown 500,000 hours in all types of planes. Miss Jacqueline Cochran, WASP director, who recently recommended that they be militarized, even for a day, to give them eligibility for military benefits, said each would be given a "Certificate of Service." Posthumous awards are to be made in behalf of 30 who have been killed in service.

Beardslee in Hawaii for CAA

John M. Beardslee has been named manager of the CAA's new Ninth Region in Hawaii, T. P. Wright, CAA administrator has announced. Beardslee joined CAA in 1928 as a civil engineer, and for the past year has been chief of the Airways Engineering Branch of the Sixth Region, Santa Monica, Calif. Headquarters for the new Ninth Region are in Honolulu.

Pilot Training for 100,000 Yearly in U.S. Proposed by ATS President

Program Advocated To Assure Nation Adequate Air Force

FUNDAMENTAL PILOT TRAINING of 100,000 young men in the United States annually to prevent our air power from ever again becoming "woefully inadequate," was proposed by J. Wendell Coombs, president of the Aeronautical Training Society, Oct. 4 before the Georgia Aviation Clinic at Macon.

The speech was the first announcement of the postwar suggestions of the ATS, liaison agency for civilian contract schools, which since 1939 have done all primary flight training for the Army Air Forces.

As proposed by Coombs, the training program would operate as follows:

1. College and university students would be offered 35 hours flight training supervised by the Civil Aeronautics Administration and coordinated with the air branches of the armed services.

2. Additional flight trainees to make up the 100,000 would be selected from a mass training group on a proficiency and reward basis, for instruction in air schools operated by civilians, with civilian instructors, working under AAF supervision. The mass training would be a physical, mental and military program of a year for some 1,000,000 or more youths between 17 and 23.

Training as a 'Plum'

Coombs said some type of mass training would be necessary, either voluntary or compulsory. He said a voluntary system might be made possible by using aviation training as a "plum" for those with particular ability.

"With all the interest, attraction and glamour that aviation has for the average American young man, we believe that 1,000,000 or perhaps 2,000,000 would volunteer for basic physical, mental and military training if they knew that the pay-off would be aviation training. Thus the mass training program could be accomplished on a voluntary basis if need be, and the standards of such a program would be infinitely better because everyone would be striving for the plum of aviation training."

Pilot trainees selected from the mass training group would be sent to air schools for three months intensive instruction on the ground and in the air, getting some 70 hours or more of real flying.

Reservists Six Years

Graduates of this fundamental course would become reservists for six years and be required to take periodic refresher courses. Those demonstrating particular aptitude as pilots would have a chance at further training for officer ratings in advanced Army schools. Coombs pointed out that many also would want to continue training for airline and other aviation jobs.

"The military fact that pilots become obsolete, generally speaking, for effective combat service after they are 26, makes it important that we do not delay too long in starting some sort of training program. Otherwise, our Air Force will soon disintegrate to an ineffective status, without necessary reserves," Coombs declared.

He recalled that the Air Force had turned to civilian school operators and instructors in 1939 to help build up the pilot strength and that the air force at that time was "woefully inadequate for war". He said that the air school installations built up by that system are owned by the government from coast to coast. The civilian management-civilian instructor system has proved efficient, safe and highly economical, Coombs said, and these installations could be put to service almost immediately after the war at a minimum of cost.

New Terre Haute Airport Foundation Stone Of Future Wabash Valley Airline Terminal

A NEW AIRPORT was dedicated in Terre Haute, Ind., Oct. 3 which is being hailed as the foundation stone of a Wabash Valley terminal for transcontinental airlines. The airport, called Hulman Field, was named for Anton Hulman, Terre Haute civic and business leader, whose gift of 638 acres made the project possible.

The landing area is made up of two diagonal runways, each a mile long and 150 ft. wide; one runway, north and south, 4,000 ft. long and 150 ft. wide; and a well-planned system of taxiways. An administration building will be built as soon as the field is released from wartime restrictions, it is planned. Hangars will be erected to accommodate small planes as well as passenger and cargo planes, and space will be reserved for a future flight school.

Terre Haute already has plans underway for a four-lane highway to the field and improvement of the roads surrounding it.

Transcontinental and Western Air has signed a contract to use the field. Other airlines which have shown an interest in future landing privileges there are Eastern Air Lines, United Air Lines, and Chicago and Southern Airlines. William F. McGrath, system traffic manager for TWA, and Cyril C. Thompson, vice president-public relations of United, attended the dedication ceremonies.

Others taking part in the program included Gov. Henry F. Schricker of Indiana; Brig. Gen. Robert Nowland, Col. Harry W. Generous, and Lt. Col. John S. Gulledge of the Army Air Forces; Comdr. George C. Helebrant of the Naval Air Forces; and Lt. Col. Walker Winslow of the Indiana Civil Air Patrol.

Wings Club Guests— Dr. Theodore von Karman (left), director of the Daniel Guggenheim Aeronautical Library at California Institute of Technology, and Geoffrey Smith, directing editor of the British aero magazine "Flight," were guests of honor at a recent Wings Club luncheon in New York. Smith addressed the club on "Gas Turbines and Jet Propulsion."

XUM

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Geneva-loc Actuator

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2. No clutches, torque limiters, brakes or adjustable limit switches—eliminating major causes of trouble.

3. Motor comes up to speed under no load, then engages cam with varying ratio which develops maximum torque at breakaway positions. Thus cutout switches always operate when motor is under no load permitting maximum switch life.

4. Design permits two to eight positions.

5. Entire unit can be disassembled and reassembled, or interchanged quickly in the field. There are no limit switches, brakes, etc., to be adjusted.

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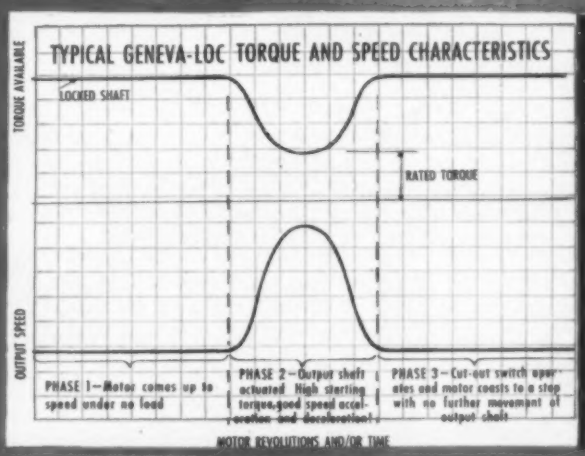
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No clutches.

No limit switch adjustment.

Motor starts at no load.

Positive positioning of valve shaft independent of motor overtravel.

No capacitor or brake required.

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38 Experimental Licenses Issued By CAA During Last Eight Months

THE CIVIL AERONAUTICS ADMINISTRATION issued 38 experimental licenses for three types of aircraft—conventional planes, helicopters and gliders—during the first eight months of 1944, a better than 137% increase over the number of such licenses issued in the comparable period in 1943.

The number of experimental licenses issued for helicopters jumped from zero to six in the comparable eight months periods, while the number of conventional aircraft increased from 15 to 23. Glider development spurted from one experimental license issued in the first eight months of 1943, to nine in the same period this year.

In the conventional aircraft field, Piper Cub Corp., Lock Haven, Pa., led the list of manufacturers with four aircraft reported in the process of development. Taylorcraft Aviation Corp., Alliance, O.; Aeronca Aircraft Corp., Middletown, O.; Ed. G. Budd Manufacturing Co., Philadelphia; Consolidated Vultee Aircraft Corp., Dearborn, Mich., each listed two airplanes under development.

Laister-Kauffmann Aircraft Corp., St. Louis, Mo., reported three experimental gliders in the process of development.

Following is the complete list of experimental aircraft licensed by the CAA during the first eight months of this year:

AETNA AIRCRAFT CORP., Los Angeles, Calif., NX 34914, Aerocraft 2SA.

AERONCA AIRCRAFT CORP., Middleton, O., NX 39556, Aeronca 7; NX 39570, Aeronca 11A.

BECHTEL-McCONE CORP., 601 W. 5th St., Los Angeles, NX 18934, Lockheed 18-56.

EDW. G. BUDD MANUFACTURING CO., Philadelphia, NX 37097, Budd RB-1; NX 41810, Budd RB-1.

CAROLINA AERONAUTICAL CORP., 710 S. Main St., Burlington, N. C., NX 15566, C Areo Corp.—Thiadchues No. 1.

CONSOLIDATED VULTEE AIRCRAFT CORP., Stout Research Division, Dearborn, Mich., NX 22447, CVAC Stout Research Div. Model 8; NX 22448, CVAC Stout Research Div. Model 103.

CHESTON L. ESHELMAN CO., Logan Field, Dundalk, Baltimore, Md., NX 41807, Eshelman FW-5.

GOODYEAR AIRCRAFT CORP., Akron, O., NX 36280, Goodyear GA-1.

GRUMMAN AIRCRAFT ENGINEERING CORP., Bethpage, N. Y., NX 41808, Grumman G-63.

HOCKADAY AIRCRAFT CORP., 60 E. Orange Grove Ave., Burbank, Calif., NX 18933, Hockaday Comet CF-130.

MANNING & BROWN, INC., 318 Continental Oil Bldg., Denver, Colo., NX 44561, Beechcraft D17S.

RADIO CORP. OF AMERICA, Camden, N. J., NX 21936, Beechcraft AT-11.

PIPER AIRCRAFT CORP., Lock Haven, Pa., NX 4500, Piper PA; NX 33522, Piper J3F-65; NX 33525, Piper J3C-65SPL; NX 33527, Piper J3C-65.

PRATT & WHITNEY AIRCRAFT, East Hartford, Conn., NX 41862, Chance Vought VS-326A.

TAYLORCRAFT AVIATION CORP., Alliance, O., NX 36278, Taylorcraft 9X-4; NX 36279, Taylorcraft 7.

Experimental helicopters:

AERONAUTICAL PRODUCTS INC., 18100 Ryan Rd., Detroit, Mich., NX 1270, Aeronautical Products 1A.

CARGOES, INC., Room 1002, 39 Broadway, New York, N. Y., NX 41804, Kaiser H-10.

CONSOLIDATED VULTEE AIRCRAFT CORP., Stout Research Division, Dearborn, Mich., NX 1268, CVAC Stout Research Division 6.

HIGGINS INDUSTRIES, INC., 521 City Park Ave., New Orleans, La., NX 38945, EB-1.

HILLER INDUSTRIES, Aircraft Division, 379 Allston Way, Berkeley, Calif., NX 30033, Hillercopter 44.

F. LANDGRAF, 2123 W. 79th St., Los Angeles, Calif., NX 21762, Landgraf R.

Experimental gliders:

GORDON W. BLAISDELL, c/o Western State Teachers' College, Kalamazoo, Mich., NX 34241, Frankford Sailplane B.

DONALD J. CHAMBERS, 131 W. 11th St., Elmira Heights, N. Y., NX 33521, Chemug IN-2.

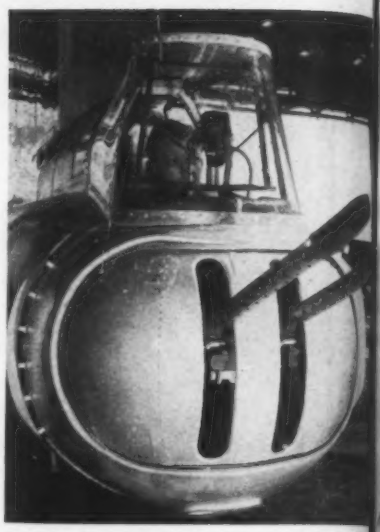
JOHN GIOMI, ABC Court, McAllen, Tex., NX 31680, Midwest Glider MU-1.

MILTON HATFIELD, 48 Honoye, Grand Rapids, Mich., NX 34102, Air-Jeep 143.

LAISTER-KAUFFMANN AIRCRAFT CORP., St. Louis, Mo., NX 24188, Laister-Kauffmann LK-10B; NX 24189, Laister-Kauffmann LK-10B; NX 24190, Laister-Kauffmann LK-10A.

LAURENCE R. LUNDEN, 303 Administration Bldg., Minneapolis, Minn., NX 24193, Univ. of Minn., UMG-3.

STEPHEN W. SMITH, RFD 3 Box 293A, Bridgeport, Conn., NX 41875, Smith Sailplane SG-5.



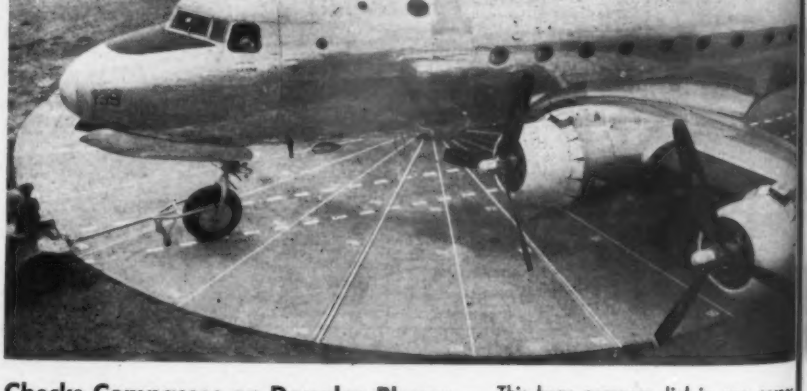
Business End of B-17— The Flying Fortress has this new swivel turret which gives the tail gunner a 90-degree swing of fire throughout the cone as compared with 60 degrees in the old type. The new turret was first installed at the Lockheed factory in Burbank.

Alaska Rules Being Drafted

Air carrier regulations for Alaska are being drafted by the Safety Bureau of the Civil Aeronautics Board, working in conjunction with the Safety Division of the Civil Aeronautics Administration. This follows a familiarization flight by CAB and CAA officials which covered all of Alaska south of the Arctic Circle.

Army May Remove Ban in East

The Army has under consideration removal of all defense restrictions pertaining to private flying along the entire East Coast. The only exceptions would be flights into specified airports and limited areas where they might interfere with military operations.



Checks Compasses on Douglas Planes— This huge compass dial in one corner of Douglas Aircraft's Santa Monica plant checks compasses installed in all planes coming off the company's assembly lines. Deviations or magnetic influences affecting the delicately-balanced needles are quickly detected.

HOW YOU CAN USE YOUR POST-WAR PLANE

Personal appointments in Chicago, Detroit and Buffalo in one day! Impossible you say?

Not impossible when present plans for post-war personal planes and landing facilities materialize. In fact, executives are looking to tomorrow's flying to minimize what has been one of the greatest wastes in business—the time lost in getting from one out-of-town appointment to the next.

The engines for these planes-to-be—smooth, efficient, completely dependable FRANKLIN engines—are now in the works at Aircooled Motors Corporation. All you need remember is to specify FRANKLIN power for *your* personal post-war plane.

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SYRACUSE 8, NEW YORK

Detroit Firm Suggests:

Plan Airports on Basis of 1960 Needs, Then Build Back to 1945

By GERARD B. DOBBEN

A GREAT DEAL of uncertainty exists in the minds of city, county and state officials today over their airport needs of tomorrow. They want their cities and towns to be in line to benefit from the big expansion that is predicted for the postwar era, but many of them are confused and puzzled as to what practical steps should be taken today to make them ready for the developments of 10 and 15 years hence.

Cochran

A Detroit firm of engineers, with an airport division, suggests that cities plan today for their expected airport needs of 1960, then build back to 1945.

"Because of a half century of progress in aviation during the last four years, it is necessary for airport engineers to assume the responsibility to develop master plans to meet the air traffic requirements of 1960. This planning must include both the private as well as the commercial plane traffic," M. W. Cochran, head of the Airport Division of Giffels & Vallet, Inc., Detroit, stated in an interview with *American Aviation* this week.

Cochran, who has built many airfields for Pan American Airways in Brazil and who was Assistant Project Manager in charge of airfield planning and design with Walsh Driscoll Co., general contractors, on air base development throughout the West Indies, believes long range planning, based on competent studies, is essential if the mistakes of yesterday, where many airports have become liabilities as far as expansion is concerned, are to be avoided.

It is necessary that this planning be done with an understanding of plane maneuverability in the air as well as on the ground; with a knowledge of terminal facilities and their operation; and with an evaluation of potential air traffic in 1960, Cochran contends.

"From the needs of 1960, the airport planners should work backward to today, and provide airport facilities for the 1945 requirements with the necessary flexibility and clearances to permit expansion as required at justifiable costs," he stated. "Obsolescence of airport facilities, such as has been witnessed the last 10 years, because of inadequacy, must stop. Intelligent planning, before property acquisition is required. The property should fit the airport and not the airport warped to fit the property."

Cochran says that intelligent planning requires close cooperation between the plane designer, the manufacturer, the commercial and private plane operators and the airport planners. It, likewise, requires the close collaboration with potential travel and cargo studies. It must include the financing of airport construction, whether by private or public funds, and be made with a keen eye to amortization largely by the users of the facilities, and this, of course, includes the public who will use the air for transport in ever increasing numbers.

Engineering studies and research has convinced Giffels and Vallet that airports can be too large as well as too small.

"We have learned that there must be a balance between runway, taxiway and terminal capacities," Cochran stated. "We have learned that flexibility in terminal facility design must be uppermost. The taxpayer has told us—and will reaffirm this more strongly in the future—that he doesn't want to invest money in airport facilities which do not provide for reasonable expansion and will be obsolete in 10 years."

These studies, Cochran explained, re-

New Airport Division

Indicative of the importance being attached to the need for competent engineering in the airport construction field is the fact that Giffels & Vallet, Detroit, recently organized an Airport Division. This firm, which has had as high as 1100 engineers, designers, and draftsmen at work on defense construction, was founded 20 years ago and since 1935 has engineed many airport projects, including eight for the U. S. Navy. Studies to develop a balance between runway, taxiway, and terminal capacities, as well as studies of terminal design to develop out-of-the-weather loading facilities and also an evaluation of the merits and disadvantages of central versus unit terminal planning, have been undertaken.

This is Giffels and Vallet's idea of a unit passenger terminal layout for 1960 which could be started with one or two units now and be expanded as traffic needs required. Airlines would own a proprietary interest in this terminal, have their own docks which would make for a completely personalized handling of their passengers. It provides expeditious movement of passengers by bus, limousine, private car and taxi to the individual airline facilities with passengers handled from either the ground or second floor. There is a helicopter deck on top.

This picture shows the weather protected loading dock, envisioned for 1960 or before. Airline officials long have felt the need for an arrangement whereby passengers could be loaded and unloaded "out of the weather." If passenger planes of the future should have the loading door ahead of the wing, the passengers could walk aboard from a second floor landing, which would take them out of the sphere of ground floor activities.

ILLUSTRATION EMERSON ELECTRIC NOSE TURRET ON A B24 LIBERATOR BOMBER
(Photo Illustration courtesy Michigan Seamless Tube Co.)

AIRCRAFT ARMOR PLATE

A star has been added to the Army and Navy E Flag awarded the men and women of the Simonds Saw and Steel Co., for continued high war production.

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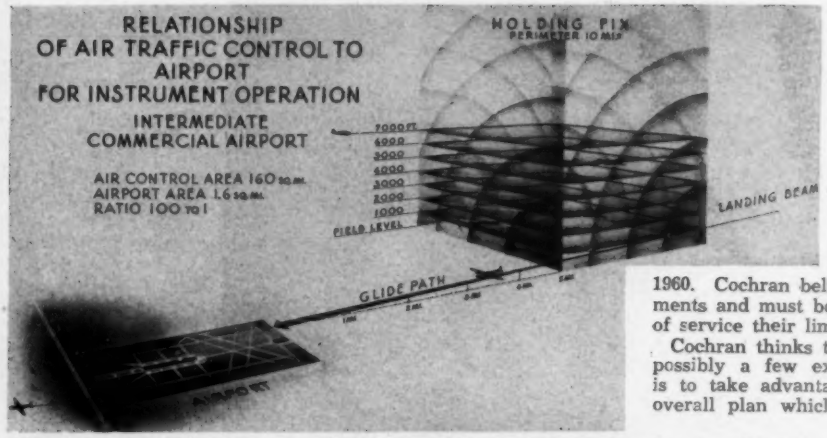


The above airport layout is expandable for doubling instrument operation capacity but should require no more expansion for commercial plane contact operation for a decade. It provides efficient use of the minimum land area—1,030 acres—with a low ratio of 7.5 acres per plane operation. Its expanded area would make a total of approximately 1,350 acres with a ratio of less than 6 acres per contact operation for primary runways. As a dual runway layout (1,030 acres) it can land a plane every 52 seconds safely and handle them effeciently. This would give a peak hour capacity of better than 4,000 passengers an hour, based on 138 operations with an average of 30 passengers per plane.

veal that planning should include segregation of air traffic, probably within 10 years, around large metropolitan areas. From cancelled flights, the engineers have learned that instrument all-weather safe operation must be obtained if air transportation is dependable. Speed and safety have been obtained; regularity of service must be improved.

"Regularity of service is a three-way job," he said. "The designer, the operator and the airport planner will pool their problems and streamline them into fewer solutions. The airport planner must accept more responsibility for the final airport product if regularity of service is obtained. The progress in technical aids and operation now permit all-weather operation and when the airports provide the clearances and facilities required, then we will eliminate the cancelled flights."

Many airports need reconstruction, extension or modernization. Whatever their status of inadequacy, they must be evaluated in the light of the demand in 1960. Cochran believes. Many cannot meet the new requirements and must be frankly appraised and adapted to the type of service their limitations will permit.

Cochran thinks there will be a practical use for them—with possibly a few exceptions—as air traffic expands. The job is to take advantage of their location and investment in an overall plan which is fully aware of the growth to be expected in a fast growing air traffic development.

In sizeable metropolitan areas the segregation of private plane traffic from commercial plane traffic may be a year or two distant at most, Cochran believes.

"In large metropolitan areas the segregation of commercial plane traffic into primarily passenger traffic, with a small percentage of mail and express, and primarily cargo traffic, may be not more than 10 years distant. The differences in plane maneuverability, airport flightways and clearance requirements, and in terminal facilities for commodity items as contrasted with passengers all warrant evaluation of segregation at this time," Cochran stated.

'Pilot Failure' Causes of Aircraft Accidents Should be Studied Carefully, Says CAA Doctor

MORE careful selection of pilots was urged by Dr. A. J. Herbolsheimer, assistant chief of the CAA Medical Division, in a talk before faculty and students of the University of Illinois College of Medicine last month. Dr. Herbolsheimer said study of "pilot' failure" causes of plane accidents should be as intensive as studies made of mechanical failure causes.

"In a study of 300 reports of commercial aviation accidents, it was found that in 26 1/3 per cent we had record of some physical impairment. A random count of the files disclosed that of all airmen certificated 20½ per cent had records of some defect. Twenty and one half per cent of the pilots were contributing 26 1/3 per cent of the accidents!" he said.

"A further analysis of the accident reports showed that 'pilot error' was the causative factor assigned in 85 per cent of the cases.

"While the most careful study is made of wrecked aircraft, no comparable scientific investigation of the pilot has been considered necessary. In view of the progress made in the mechanical development, it would be reasonable to expect that like studies of the pilot would likewise prove fruitful.

"The term 'pilot error' as a cause of accidents is open to much criticism. Under this heading have been included 'error in judgment,' 'loss of head,' 'brain fatigue,' 'fault of pilot,' 'physical illness,' 'carelessness,' 'inexperience,' 'inattention,' 'recklessness,' 'poor technique,' 'disregard for regulations,' and a host of equally indefinite terms.

"Certainly some of these pilots could be expected to show their flying records to be merely reprints of their life patterns. The remedy would appear obvious: more careful selection and training of those who are to operate aircraft.

"In the Civilian Pilot Training program which required both physical and mental testing as well as careful supervision, the accident incidence was one in 1,752 hours flying time, as compared to one in 791 hours in uncontrolled flight instruction.

"We may expect much the same type of regulatory restrictions in flying as in automobiling. These should prove beneficial not only in preventing initial violations, but as an aid in removing from aviation those persons who have demonstrated a definite inaptitude for the safe operation of aircraft."

Dr. Herbolsheimer pointed out the importance of physical examinations and standards in certifying pilots as one of the functions of aviation medicine. Among other health problems of aviation he cited the carrying of insect pests and of disease from distant lands by speedy aircraft.

"Slower ocean-going vessels allow greater opportunity for control. The incubation period of contagious diseases varies from five days in cholera to 14 days in smallpox. Quarantine of air travelers for an adequate period would eliminate the chief advantage of air travel, the economy of time. Efforts at control must be directed to the points of embarkation," he said.

CAP Sets 1944 Cadet Goal

The Civil Air Patrol has set a goal of 250.000 boy and girl air cadets by the end of 1944. The program includes boys and girls from 15 to 18 years of age. CAP already has a cadet membership of 50,000.

Aviation Aid to Orchards

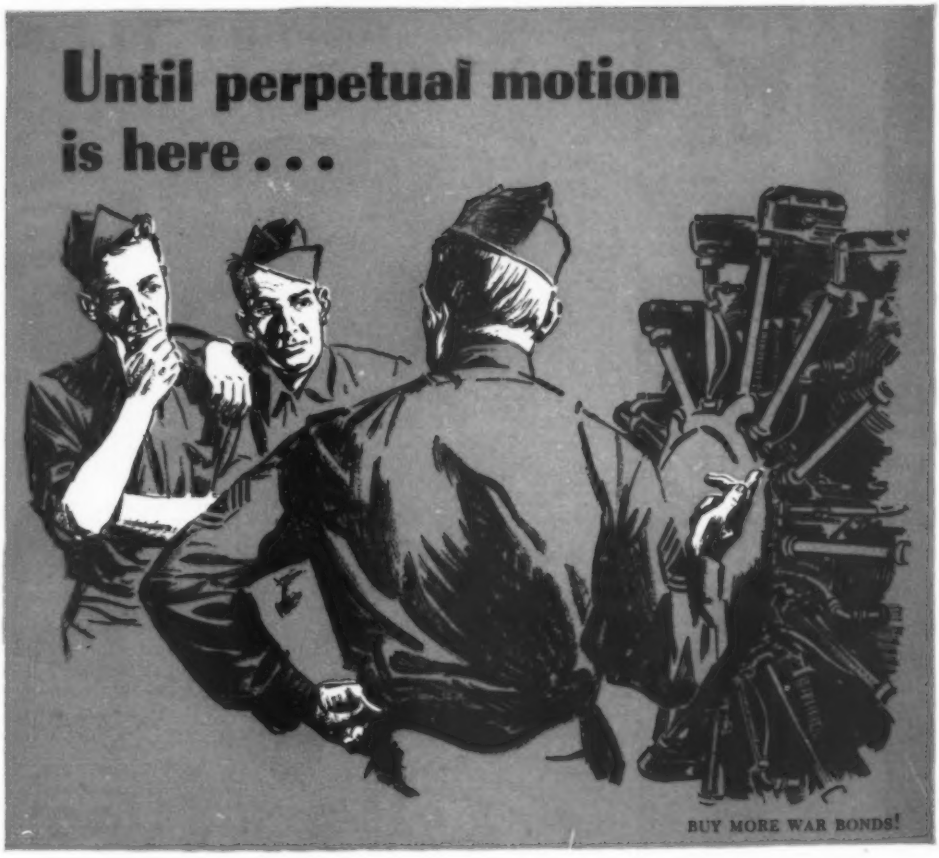
Food Machinery Corp. has employed airplane principles to a Speed Sprayer, a postwar machine which will throw a stream of germ and insect killing liquid into orchards to drive pests away. The sprayer, mounted on a tractor makes use of airplane propellers, working through a "wind tunnel."

Panagra Case in Court

W. R. Grace & Co. has filed a petition in the U. S. Circuit Court of Appeals for the Second Circuit, New York, asking a review of the Civil Aeronautics Board decision of May 24 in which the Board held that it did not have the authority to order the extension of Panagra's route from Cristobal, Canal Zone, to a terminal in the United States.

Air Rules Being Revised

Revised civil air regulations, designed to relax the rules for private flying, will be ready for adoption by Jan. 1, according to the Safety Bureau of CAB. They involve Sec. 60 dealing with air traffic, Sec. 20 on pilot certification, and Sec. 43 on aircraft repair and certification.

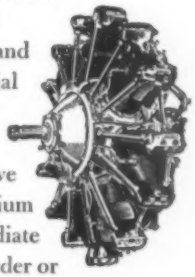


"Until perpetual motion is here, gimme the Jacobs," says T/Sgt. Jinks. "I tended teakettles in this man's Army when they thought the JN-4 was a hot plane. I remember jobs that needed two hours in the shop for every one in the air. An' I'm here to tell you that this baby has fewer headaches and less hard work in it than any plane engine I ever met! You grease monkeys get a break because this outfit has Jacobs, and I want you to treat 'em right respectful — see?"

Technical Sergeant Jinks has almost as many hash marks as stripes and rockers on his sleeve. And when it comes to rating aircraft engines, his opinion is as good as they come.

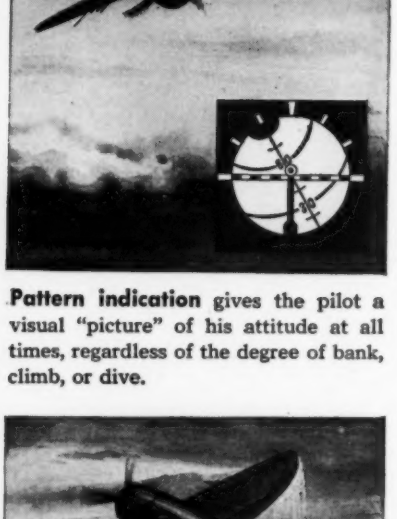
Ground crews in training squadrons are powerfully partisan to the Jacobs. Three years ago, regulations specified 350 flight hours as the maximum service period between major overhauls. That period has been gradually extended to 1200 flight hours! And the Jacobs rarely leaves its nacelle between majors.

YET these Jacobs in the twin-engine trainers that school the bomber pilots, are handled by students, make more take-offs, spend more time at full throttle than any engine in combat service—or commercial operation!



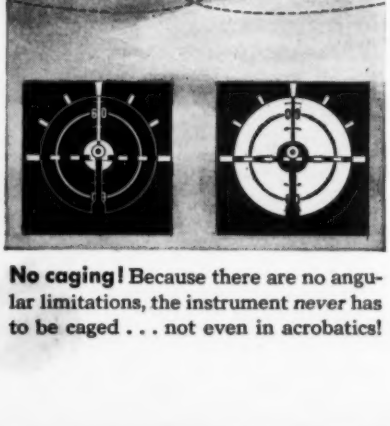
This record of the Jacobs will stand the closest scrutiny of any commercial operation for low maintenance cost and dependable performance . . . After the war, Jacobs will also have new models for light planes and medium transports . . . well worth the immediate attention of plane manufacturers, feeder or freight line operators, private fliers . . . Jacobs Aircraft Engine Co., Pottstown, Pa.

JACOBS · **Pottstown, Pa.**



Pattern indication gives the pilot a visual "picture" of his attitude at all times, regardless of the degree of bank, climb, or dive.

No angular limitations! The Sperry Attitude Gyro indicates pitch and bank without any angular limitations!



No caging! Because there are no angular limitations, the instrument *never* has to be caged . . . not even in acrobatics!

Attitude Unlimited!

New Sperry Attitude Gyro provides pattern indication . . . has no angular limits . . . needs no caging!

WITH THE NEW Sperry Attitude Gyro Indicator a pilot can, *for the first time,* loop, roll, dive, climb, or fly at any angle with visibility zero, and still always know the attitude of his plane relative to the earth.

The spherical dial is marked to provide the same "pattern" type of indication whether by daylight or by any artificial light . . . a single glance tells the story.

The suspension for the spherical dial of this new Sperry instrument allows full 360° freedom of indication in the roll and pitch axes of the airplane.

A small gyro spinning at 23,500 r.p.m. stabilizes the sphere and keeps it erect in relation to the earth's surface. *The airplane actually maneuvers around the indicating sphere.*

The Sperry Attitude Gyro makes instrument flying safer, easier, and facilitates maneuvers and acrobatic training.

With it there is no possibility of the gyro's tumbling, even in extremely turbulent air. And, of course, its advantages in combat are obvious.

Sperry Gyroscope Company INC.

GREAT NECK, NEW YORK • DIVISION OF THE SPERRY CORPORATION

Gyroscopics • Electronics • Automatic Computation • Servo-Mechanisms

Priority Lists on Surplus Transports up to DPC, FEA

Final Allocations Here and Abroad Acted on by SWPA

TWO OFFICIAL DISPOSAL agencies in Washington, responsible to the Surplus War Property Administration, are now engaged in preparing priority lists for each of the various types of transport aircraft declared surplus, and for which application has been made by prospective purchasers.

These agencies are working under a procedure for the allocation of surplus transport aircraft outlined by W. L. Clayton shortly before he submitted his resignation as administrator. Under new legislation signed by the President, surplus disposal in the future will be under a three-man board instead of a single administrator.

Interdepartmental Committee

All surplus transport type aircraft or surplus tactical aircraft suitable for conversion to transport purposes (in excess of 5,000 pounds gross weight) will be allocated among applicants by the Surplus War Property Administration in consultation with an Interdepartmental Working Committee. This committee is composed of representatives of the State, War, Navy and Commerce Departments, Civil Aeronautics Board, Reconstruction Finance Corp., War Production Board, and Foreign Economic Administration.

The actual disposal agencies are the Defense Plant Corporation's Surplus War Aircraft Division, and the Foreign Economic Administration's Air Transport Division. In making up priority lists, DPC consults with the CAB and FEA consults with the State Department. A final combined list is passed on by the Surplus War Property Administration and the Working Committee.

The procedure specifies that applications originating in the U. S., in U. S. territories and possessions and from U. S. flag air transport carriers for aircraft in this category should be directed to James A. Garfield, chief of the Surplus War Aircraft Division, DPC, 1625 K Street, N.W., Washington 25, D. C.

Apply to Brinckerhoff

Foreign applicants and foreign flag lines are required to submit applications to William W. Brinckerhoff, chief of the Air Transport Division, FEA, Temporary "U" Building, Washington 25, D. C.

Applications should include:

(1) The name, address, ownership, business and nationality of the applicant.

(2) A statement of the number and types of aircraft presently in use.

(3) The specific types and quantities of aircraft and spare parts desired with full particulars as to the preferred type of engine and similar technical details. Alternate second and third choices should also be stated.

(4) A description of the routes presently served.

(5) A full statement of the use for which the equipment is intended as, for instance, additional routes and territories which are to be served; whether the aircraft are required for cargo only or for passenger service; etc.

(6) A detailed statement of urgency of need.

(7) Description of operating and maintenance facilities.

Clayton Lists Types

Clayton announced that the following types, which are subject to the allocations procedures, have been declared surplus:

Twin-engined Cessna trainer and light transport.

Lockheed Hudson.

Avro. Anson.

Fairchild twin-engined advanced trainer.

Douglas B-23 bomber converted to transport use.

Boeing twin-engined advanced trainer.

Douglas amphibian.

The use of some of these types for transport purposes in the United States is subject to CAA approval.

The disposal agencies are at present preparing detailed price schedules in conformity with Regulation No. 4, the aircraft price regulation recently issued by SWPA. It is expected that these pricing schedules will be completed and that sales under the allocation procedures announced by Clayton will begin at some time within the next two weeks. The date will be announced publicly. Meanwhile, the disposal agencies are ready to receive and analyze applications.

U. S. Wartime Plane Losses Total 42,000

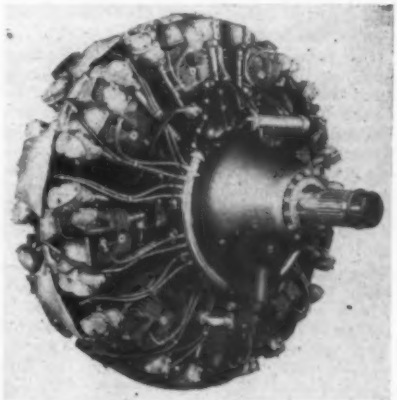
U. S. wartime plane losses, for all causes, amount to 42,000, according to a War department announcement. Of this total, 17,500 planes have been lost in training, transport, and patrol work in this country, 14,600 in combat flights, and 9,900 in overseas operations, other than combat. Battle casualties in personnel amounted to 72,000 in dead, wounded, and missing and 5,300 in non-battle mishaps. Of 17,500 planes lost in this country, 75% have been lost in training. Training accidents in 80% of the cases were ascribed to the human element—mistakes of pilots or members of the crew.

Wright Aero Observes 25th Anniversary; Hails Great 5-Year Production Record

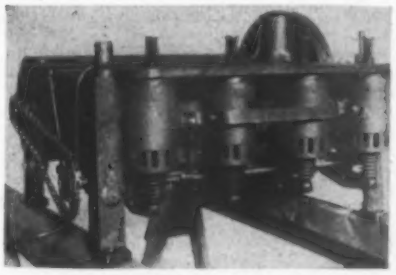
WRIGHT Cyclone and Whirlwind engines totaling 311,373,000 horsepower, enough to power a fleet of 65,000 four-engined bombers or 130,000 cargo planes, have been produced since the outbreak of World War II, the Wright Aeronautical Corp. announced Oct. 9 on its 25th anniversary.

This output, which now represents more horsepower in one day than was produced during the first ten year's of the company's production, includes engines made in the New Jersey and Ohio plants of the company, as well as engines from other firms building Wright units during wartime.

With the permission of the War Department, the company disclosed that



Wright Cyclone—1944



Wright Brothers'—1903

while only 20,000 engines had been built in the 20 years from the founding of Wright Aeronautical in 1919 to the outbreak of war in 1939, the present total of engines is near the 200,000 mark.

Bulk of this production has been on the Cyclone 9 for the Boeing B-17 and cargo planes, the Cyclone 14 of 1,700 horsepower for the North American B-25 Mitchell and Grumman Avenger torpedo bomber, and the Cyclone 18 of 2,200 horsepower for the mighty Boeing B-29 Superfortress. In addition, however, there have been a large number of Whirlwind engines produced for tanks.

Reviewing the World War II phase with it's twenty-five years in business, Philip B. Taylor, vice-president and acting general manager of the company, pointed out that Wright Aeronautical produced engines last year at a rate 22 times that of it's 1939 output but with only 11 times as many employees.

117 Transports, 32 Fighters, 559 Bombers Listed Surplus

Breakdown of RFC Tabulation Gives Plane Cost Figures

A BREAKDOWN of military aircraft which have been declared surplus to the Reconstruction Finance Corporation reveals that among the 9,785 planes, 117 are transport types with the vast majority of the others training and reconnaissance types, which total 8,281.

There are 559 in the bomber classification, 32 in the fighter group, and 784 gliders are listed. The figures are as of Sept. 7.

The 9,785 planes represent a cost value of $192,807,492. So far, one plane costing $130,500 has been sold for $25,000.

Some interesting per plane cost computations are possible as a result of the breakdown obtained from RFC officials. A patrol bomber, two-engine flying boat, cost $358,000. A rotary wing type plane, identified as an autogiro, cost $433,533. The 419 advance trainers, two engine types, cost an average of $55,000. The one-engine types cost approximately $32,000 each. Medium two-engine bombers have an average cost of $148,706 while medium transport, two engine types, were billed to the government at an average of $102,000 each.

Accurate cost data on a plane basis is not possible because of the variation in types, even within specific classifications. While the breakdown, which follows, gives an idea what the various types of planes cost the government it does not give effect to cost decreases which may have been realized as experience was gained and production increased.

Description	Number	Cost
Patrol Bomber (Flying Boat—2-Engine)	1	$ 358,000
Medium Bomber (2-Engine)	143	21,263,000
Light Bomber (2-Engine)	46	5,505,000
Light Bomber (1-Engine)	369	32,568,000
TOTAL (Bomber Classification)	559	59,688,000
Army Fighter (1-Engine)	32	1,888,000
Medium Transport (2-Engine)	9	918,000
Light Transport (2-Engine)	11	371,000
Transports not otherwise classified	97	1,120,000
TOTAL (Transport Classification)	117	2,410,000
Communication (Liaison)	1729	4,931,000
Communication (Observation and Reconnaissance)	112	4,569,000
TOTAL (Communication Classification)	1841	9,501,000
Advance Trainer (2-Engine)	419	23,258,000
Advance Trainer (1-Engine)	66	2,156,000
Basic Trainer	2035	49,607,000
Primary Trainer	3920	41,684,000
TOTAL (Trainer Classification)	6440	116,706,000
Special Purpose (Aerial Targets)	10	57,200
Link Trainer	1	3,696
Gliders	784	2,120,063
Rotary Wing (Gyro)	1	433,533
TOTAL (All Classifications)	9785	192,807,492

San Francisco-Honolulu Flight Made in 10½ Hours

An airline distance of 2,415 miles, from San Francisco's Hamilton Field to Honolulu was recently flown by an ATC-operated land plane in 10½ hours, an average speed of 230 miles per hour.

The flight, clipping a full hour from the best time previously recorded, was made in a Douglas C-54 Skymaster on a routine hop.

The time and distance were confirmed by Brig. Gen. William Ord Ryan, commanding the Pacific Wing of the Air Transport Command, who made the flight.

"We had a pretty good tail wind," the General said.

Christened With a 'Cloud'—
When the 10,000th P-47 Thunderbolt came off the assembly line at Republic Aviation Corporation's Farmingdale, L. I., plant last month, Jacqueline Cochran, head of the WASPs, was on hand to christen the plane with a 'cloud.' The miracle was produced with a bottle of C.O.

CAA's Surplus Plane Testing Program Begins at Vandalia, O.

Most Commercial Ships Converted to War Use Ready for Civil Work

THE Civil Aeronautics Administration's testing program on surplus aircraft, which is being carried on in conjunction with the Defense Plant Corp., was well underway last fortnight at Vandalia, O. Four planes already have been tested and an additional eight are now in the process of testing.

Purposes of the tests are to determine whether the planes released by the Army meet the requirements for civil use established by the CAA. No special yardstick is used in measuring the standards of the aircraft, although CAA engineers are giving attention to the stress analysis supplied by the manufacturer to the military at the time of purchase to determine where these specifications differ from civil requirements.

Generally speaking, CAA engineers said, practically all commercial models which were converted to war use will be usable in civil aviation. Some doubts were expressed, however, about the conversion of fighters and bombers. The Bell Airacobra (P-39), for example, does not comply with CAA landing speed requirements.

Two kinds of tests are conducted at Vandalia. If the plane weighs more than 5,000 pounds the transport type category is applied. If it weighs less, the normal CAA tests are applied.

For testing purposes, planes are divided into three classes: (1) Those which were obtained by the Army from civilian sources, that is from civilian factory lines. These are examined to see whether changes made by the Army would change their original condition. If the plane meets the requirements, the CAA sends specifications to its field personnel, so that these planes are licensed whenever they are submitted by the new owner.

(2) Those which comply with the majority of CAA civil requirements but not with all of them. In these cases the CAA lists the minor changes which must be made, and these are listed on the specifications sent to CAA field men. They check to determine if the changes have been made before licensing the plane for civil use.

(3) Those which cannot reasonably be changed to comply to CAA civil requirements. In this class are many fighter and bomber planes, bought on Army specifications and designed for a special combat job.

TIMBER FOR TOMORROW

Springs from Southern Soil!

Great southern forests yield lumber for myriad vital wartime uses. But greater still will be the demands of peace—lumber to be submitted to the magic of plastics and chemurgy, and lumber to satisfy the home-building instincts of millions of home-loving Americans.

Already the South is producing 40 per cent of U. S. lumber. And more than half the timber potential of our national forest areas is in the South. Thousands of acres of seedling trees give promise of timber deliveries equal to future needs as well as providing a new and fertile source of income to the Southern planter. Timber's great prospective activity is but typical of the South's postwar outlook in other fields—steel, textiles, oil, mining, cotton, chemistry, agriculture.

Delta Air Lines serves a South of vast productive capacity. Delta personnel daily brings nearer completion their plans for finer service, swifter airliners and extended airways—whenever there is a moment to spare from the first-business of essential wartime transportation and special operations for the armed forces.

THE AIRLINE OF THE SOUTH...SERVING A LAND OF POWER AND PROMISE

War-Learned Lessons to Aid Civil Aviation

Technical Advances to Keep U.S. in Lead Of Global Flying, Engineers Advise SAE

MANY OF THE TECHNICAL advances that have been made in aviation under the stress of war necessity and battle experience, most of which will have a direct and beneficial application to postwar civil aviation, were laid before the annual autumn aeronautic meeting of the Society of Automotive Engineers at Los Angeles Oct. 5 to 7.

Eminent aviation engineers, conquerors of problems that might have gone unsolved for decades, presented to the sessions the story of engineering progress which not only has enabled this country to build the greatest air force in the world but which promises to keep this nation in the forefront of civil and military aviation in the peace to come.

W. A. Reichel, of Eclipse-Pioneer Dision, Bendix Aviation Corp., Teterboro, N. J., listed among the valuable lessons learned from the war: the vulnerability of aircraft hydraulic systems to gunfire, cold, and altitude; the advisability of utilizing electrically-operated accessory and instrument systems; discovery that alternating current is superior to direct, especially at high altitudes; necessity for sealing critical units against dust, moisture, corrosion, and atmospheric conditions; development of instruments and equipment which are rugged, simple to operate, easy to maintain and the possibilities of using new materials, such as magnesium, permalloy and alnice, and beryllium copper.

Reichel said one of the major lessons learned is the saving in time in designing an instrument or system for airplane use by organizing for production.

"It is just as easy," he commented, "to design for production from the first. If the experimental model is successful, it may go into production without change."

Improvements, Not Remedies

Development of a device which accurately and rapidly measures the critical thickness after final machining of highly-stressed parts of planes was explained by Wesley S. Erwin, of Research Laboratories Division, General Motors Corp., Detroit. The device, originally used in the inspection of hollow steel propeller blades, is known as the "sonigage." It consists, he stated, of a simple variable-frequency electronic oscillator, and X-cut quartz crystal transmitting mechanical vibrations to metal, and a power output meter indicating the metal's resonant frequency. The device can measure thickness from vibrations in the .020 to .400-inch range with a maximum error of less than two percent, he stated.

Mechanical improvements should precede other remedies, such as the use of oil additives to prevent foaming, stated W. L. Wheeler, of North American Aviation, Inc., Inglewood, Cal., in discussing oil systems. Explaining that oiling system troubles are so numerous and complicated as to defy any one corrective, Wheeler proposed that consideration be given to the design of new systems, such as the shunt type, to correcting known shortcomings of these systems before they are installed, and to the redesigning scavenging systems.

Because postwar commercial planes are likely to be too large for indoor servicing and must be designed for maintenance by the perpetual overhaul, continuous operation method so as to keep them profitably in the air, General Service Manager Reagan C. Stunkel, of Lockheed Aircraft Corp. Burbank, Cal., described a plane and maintenance system which permits the plane to be operated 18 hours daily and overhauled every 5,000 hours without being out of service or grounded for repairs longer than six hours at any one time.

Electrical Warnings

R. D. Kelly, of United Air Lines, Chicago, told the gathering that improvement in design of transport planes to improve stalling characteristics has been supplemented by installation of devices which warn pilots before lack of speed. lift and control can cause diffieulties. He said a number of air flow sensitive units are mounted at critical points on the wings. Being electrically connected, the units warn the pilot by illuminating individual lights or by activating an ammeter within his easy vision.

Ralph S. Johnson, Chief Test Pilot of United Air Lines, Cheyenne, Wyo., recommended installation in transport planes of flight deck coordiantors which he said would contribute to speed, safety, and efficiency by making the operational scrips readily visible to busy flight officers. He said extensive tests have demonstrated that the coordinator can reduce pre-takeoff run-up time to two and one-half minutes from nine, and in cases of engine failure has reduced to 45 seconds from four to eight minutes the time required to ready the plane for single engine performance.

Accurate computation of fuel reserves for long range flights by tomorrow's commercial air transport planes will pay big dividends because any reduction on fuel loads means a profitable increase in payloads, Capt. H. J. Chase, of Pan American Airways, New York, told the convention.

Chase said his company's experience had shown that when a variable instead of a fixed fuel reserve was used, additional payloads carried on the San Francisco-Honolulu flights produced increased revenue of $2475 monthly on west-bound trips, of $1040 monthly on east-bound, using $1.26 per pound as a basis. Improvements in radio navigation which will reduce approximately by one-half the additional mileage required by present navigational equipment will be a postwar reality, Chase stated.

Today's engineering thought on forced cooling of aircraft engines was described by J. H. Brewster, III, of United Aircraft Corp., East Hartford, Conn.

"Any installation, whether aircooled or liquid-cooled, can benefit by forced cooling," Brewster stated "provided that the cooling system is as efficient as the propeller. Efficiency of liquidcooled radiators is such that improvement in performance offered by forced cooling is insufficient to justify added complexity and weight, and aircooled engines have not yet reached the point of development where practical performance gains always are offset by added weight and complexity of forced cooling."

The promising future for the Ercoupe which has a simplified control system eliminating foot pedals and requiring coordination of only two controls was explained by Fred E. Weick, of Engineering & Research Corp., Hyattsville, Md. In tests made under Civil Aeronautics Administration direction, Weick explained that college students, tradesmen, business and professional men, and housewives, ranging from 18 to 46 years, had learned to fly within three and a half to five hours.

Engineering steps toward the postwar, large-volume production of small, low-cost airplanes for commercial use were outlined by Chief Engineer A. G. Tsongas and Industrial Engineer F. S. Macomber, of Stinson Division, Consolidated Vultee Aircraft Corp., Wayne, Mich. They pointed out that high production techniques and valuable statistical cost data would enable large-volume production of satisfactory small planes and they recommended production designs as low in cost as the industry can make it.

Lessons From Birds

Roy W. Brown, of Firestone Tire & Rubber Co., Akron, told the engineers that man is taking lessons from birds in developing fundamental design features for aircraft landing gears. These features, he said, include such basic principles as retraction, energy absorption, mechanical linkages, and possibly minimum weight.

Dual or tandem wheels with tires of small diameter appear promising for today's planes of 120,000 pounds gross weight, Brown declared. However landing a 200,000 or 300,000 pound aircraft at high speed presents difficulties which indicate a need for landing gears comprised of interchangeable eight-wheel articulated undercarriage units which retract into space between floor beams.

Increased size, speed, and power of planes are creating engineering problems by way of flutter and fatigue failures which demand rigorous application of the principles of dynamics and which must be solved in advance of construction of tomorrow's super-planes, R. L. Schleicher, of North American Aviation, declared. Schleicher proposed that static analysis of plane structures be augmented by analysis of the effect of impact loads, with detailed consideration of rotational accelerations about the three principal axes of the plane and of the increasing important secondary effects due to the deflected condition of the structure.

Henry Dreyfuss, industrial designer, New York, pictured for the convention group

world-cruising planes, smaller than ocean liners but just as luxurious in appointments and passenger comforts.

"Planes will be used not only for fast travel over land and sea," Dreyfuss predicted, "but also for reasonably leisurely cruises—a couple of weeks around the world, with side excursions by helicopter into obscure places previously off the beaten track."

Addressing an engineering symposium on global flight requirements, T. N. Floyd, of Douglas Aircraft Co., Santa Monica, Cal., stated that global plane operation calls for construction of planes to withstand an expected temperature range from 100 degrees below zero to 100 degrees above zero Fahrenheit. He recommended research designed to accurately determine thermal coefficients of expansion of aircraft materials within the indicated temperature range. He explained that the effects of temperature changes upon stresses of fixed structural members and upon parts employing force-fits are known to be of great magnitude.

After receiving the SAE Manly Memorial Medal for his work in developing methods and data for increasing the working strength of metals and of engine parts, John Otto Almen, Detroit, gave the group the results of extensive tests to show that many current metal-treating methods, including surface finishing, actually may reduce the fatigue strength of engine parts by creating stresses, altering properties, and even fracturing the material. He declared that fatigue failures result only from tension, never from compressive stresses.

War Restrictions Lifted At Many Landing Areas In Four Western States

The Sixth Regional office of the Civil Aeronautics Administration has announced the names of designated landing areas in four western states where civil aircraft may now engage in point-to-point flying. Restrictions, placed in effect immediately after Pearl Harbor by military authorities, have been lifted both inside and outside of the Western Air Defense Zone at the following airports:

California

(Inside Western Air Defense Zone)

Bakersfield-Kern County, Bakersfield; Brawley, Brawley; Central, Compton, Compton, Compton; Culver City, Culver City; El Monte, El Monte; Chandler Field, Fresno; Fullerton Municipal, *Fullerton; Vail Field, Los Angeles; Monrovia, Monrovia; Brackett Field, Pomona; Pomona, Pomona; Red Bluff, Red Bluff; Rosemead, Rosemead; San Mateo, San Mateo; Grand Central Air Terminal, Glendale; Furlong Field, Fresno.

(Outside Western Air Defense Zone)

Alturas Municipal, Alturas; Silver Lake, Baker; Silurian Lake Soaring Site, (Gliders only) Baker; Plumas County, Beckwourth; Harvey's, Blythe; Heron, Blythe; Independence, Independence; Lone Pine, Lone Pine; Manzanar, Manzanar; Adamson, Olancha; Quincy Sky Harbor, Quincy; Susanville, Susanville.

Arizona

Clemenceau, Clemenceau; Cutter Field, Globe; Park Field, Holbrook; Mohave County, Kingman; Nogales International, Nogales; Sky Harbor, *Phoenix; Love Municipal, Prescott; Conner Field, Quartzsite; Safford Municipal, Safford; Wickersham, Safford; Saunders, St. Johns; Gilpin, Tucson; Wellton, Wellton; Williams, Williams.

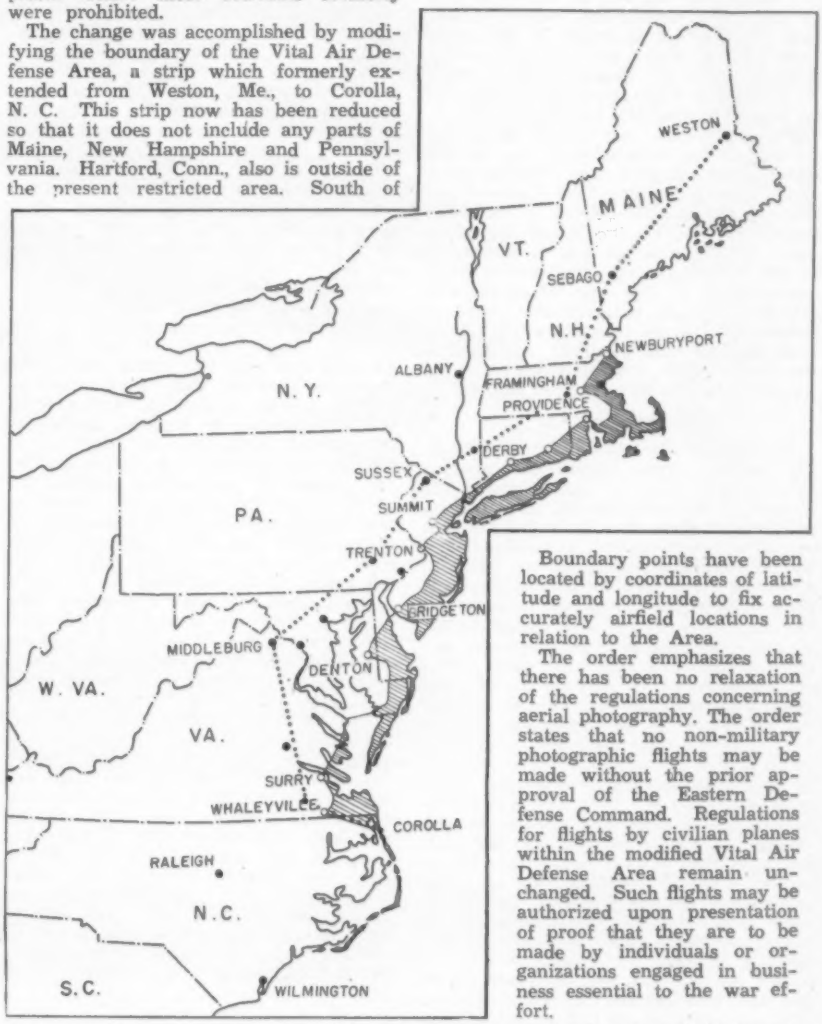
East Coast Flying Restricted Region Sharply Reduced

The strip along the East Coast in which civilian flying is prohibited has been reduced from an area approximately 50 miles in width to one 25 miles wide.

The regulations governing flying in the hitherto restricted East Coast areas were eased, effective Oct. 9, by the Eastern Defense Command. The order permits miscellaneous civilian flying, and primary military and naval pilot training in many places where these activities formerly were prohibited.

The change was accomplished by modifying the boundary of the Vital Air Defense Area, a strip which formerly extended from Weston, Me., to Corolla, N. C. This strip now has been reduced so that it does not include any parts of Maine, New Hampshire and Pennsylvania. Hartford, Conn., also is outside of the present restricted area. South of New England, the line has been drawn to exclude nearly all civilian airports except those within 25 miles of the Coast or in dangerous proximity to important installations.

The new boundary is defined as a line connecting Newburyport, Framingham, Norwood, East Bridgewater and Middleboro, Mass.; Warren and Providence, R. I.; Norwich, Chester and Derby, Conn.; White Plains, N. Y.; Caldwell, Summit, Rahway, Trenton, Atsion and Bridgeton, N. J.; Smyrna, Del.; Greensboro and Denton, Md.; Greenwood, Del.; Crisfield, Md.; Smith Point, Cobb Creek, Scotland, Surry, Suffolk and Whaleyville, Va.; and Corolla, N. C.



More Open Air Ahead—Civilian flying now is permitted in a much larger area along the East Coast as a result of the restricted zone being drastically narrowed. Three states have been entirely freed from the restrictions. The shaded area in the map indicates the new Defense Area, and the dotted line marks the boundary of the previous restricted area.

Boundary points have been located by coordinates of latitude and longitude to fix accurately airfield locations in relation to the Area.

The order emphasizes that there has been no relaxation of the regulations concerning aerial photography. The order states that no non-military photographic flights may be made without the prior approval of the Eastern Defense Command. Regulations for flights by civilian planes within the modified Vital Air Defense Area remain unchanged. Such flights may be authorized upon presentation of proof that they are to be made by individuals or organizations engaged in business essential to the war effort.

Nevada

Carson City, Carson City; Elko Municipal, *Elko; Yelland Field, Ely; Alamo, Las Vegas; Sky Haven, Las Vegas; Lovelock, Lovelock; Tahoe-Douglas, Minden; Hubbard Field, Reno; Reno Sky Ranch, *Reno; Winnemucca, Winnemucca; Smith Valley, Smith Valley; Yerington, Yerington.

Utah

Brigham City, Brigham City; Cedar City, Cedar City; Delta Municipal, Delta; Logan-Cache, Logan; Midvale, Midvale; Salt Lake Airport No. 2, Midvale; Robert H. Hinckley, *Ogden; Carbon County No. 2, Price; Provo Municipal, Provo; Richfield Municipal, Richfield; Salt Lake Municipal, Salt Lake City; Utah Central, Salt Lake City; Spanish Fork, Spanish Fork; St. George, St. George; Vernal, Vernal.

* Denotes 24-hour operation.

State, City Officials Say:

CAA-NIMLO Model Zoning Act Needs Only Few Legal Changes

Conference Prepares Act for Submission To '45 Legislatures

WITH minor legal changes, the Model Airport Zoning Act drawn up in 1941 by the Civil Aeronautics Administration and the National Institute of Municipal Law Officers might well be adopted by every state in the union, it was decided at the recent CAA-sponsored conference on airport zoning law in Washington.

The conference was called to polish up the act for submission to the various state legislatures next year. Twelve states and Alaska already have adopted it. State and municipal officials at the conference agreed that the Model Act could never be a precise pattern for all states to follow because of variations in state procedures. It also was observed that practical political pressure may arise to defeat many of the aims of the act. However, the act was generally accepted as the best guide toward airport zoning legislation which has yet been drafted.

Summary of Act

Summarized, the act sets forth the finding that an airport hazard is dangerous to lives and property and is not in the interest of the public health, public safety, or general welfare. It authorizes the adoption, administration, and enforcement by political subdivisions of the state of airport zoning regulations for publicly-owned airports. *(Privately-owned but publicly-used airports also should be included under the act, the conference decided.)* The municipality or other political subdivisions is directed to consider factors such as the character of the flying operations to be conducted, the nature of the terrain, the height of existing structures, and the possibility of lowering or removing existing obstructions. Joint action by two or more political subdivisions is authorized and jurisdiction with respect to zoning beyond the corporate limits of the political subdivision is extended. The act requires that all regulations shall be reasonable and that structures and trees not conforming to the regulations when adopted should be specifically covered.

The act sets up a permit system covering the construction of new structures and the replacement and change of existing structures. No permit would be granted to allow the creation of a "greater hazard." Provision is made for the removal or reconstruction of non-conforming structures or trees which have been abandoned or are more than 80 per cent deteriorated. Provision is also made for a variance from the zoning regulations, and a structure or use in violation of the regulations will be allowed where a literal application or enforcement of the regulations would result in practical difficulty or unnecessary hardship, and where the relief granted would not be against the public interest.

The act requires a public hearing for the adoption or amendment of regulations pertaining to airport zoning. The administrative agency which conducts hearings and decides on permits may be an existing or newly created agency. It is required that airport zoning regulations adopted under the act shall provide for a board of appeals. The powers and the procedure of this board are set forth.

One section of the act pertains to judicial review. The proper court is given jurisdiction to affirm, modify or set aside the decisions of the board. Another provides for enforcement of the act by way of fine or imprisonment and also by court order.

The act enables political subdivisions to acquire by purchase, grant, or condemnation, air rights, easements, or other estates or interests in property as may be necessary to effectuate the purpose of the act.

Delegates to the conference showed interest in a Philadelphia city zoning ordinance, which was explained by G. Coe Farrier, chief counsel of the Mayor's Aviation Advisory Committee there. The ordinance provides that "applications for zoning permits in districts within 10,000 ft. of a licensed or lawfully established airport shall, under certain conditions, be referred to the Board of Adjustment for the purpose of ascertaining whether the height of the buildings or structures, for which application is made, will secure the public safety and make adequate provision for air transportation; and to limit the height of the buildings or structures in such cases, with such appropriate safeguarding conditions as may be determined necessary by the Board of Adjustment. The conditions under which such applications shall be referred to the Board of Adjustment are as follows:

"Whenever a structure over 15 ft. high is to be erected within 500 ft. of such airport; over 25 feet high and within 500 to 1,000 ft.; over 50 feet high and within 1,000 to 2,000; over 100 feet high and within 2,000 to 3,000 feet; over 150 feet high and within 3,000 to 4,000 feet; over 200 feet high and within 4,000 to 5,000 feet; over 250 feet high and within 5,000 to 6,000 feet; over 300 feet high and within 6,000 to 7,000 feet; over 350 feet high and within 7,000 to 8,000 feet; over 400 feet high and within 8,000 to 9,000; 450 feet high and within 9,000 to 10,000 feet."

Aero Course at NYU

New York University announces a course in "Commercial Air Transportation", devoted to the practices, procedures, and problems of airlines, and the economic, legal, and technological principles necessary for a thorough understanding of air transport. Subjects to be covered include basic facilities and organization, passenger service, cargo service, routes and itineraries, reservations and space control, load factor, tariffs, flight operations, claims, Government regulation, and special problems of international air transport.

American Aviation Adds To Western Facilities

American Aviation Associates has increased the personnel and office facilities of its West Coast headquarters in the Park Central Building, 412 West Sixth St., in Los Angeles "Airline Row." Both the West Coast advertising and editorial departments will be located there.

Elofson

The new staff which has assumed duties at the expanded quarters includes O. R. Elofson, in charge of West Coast advertising for the combined publications; Miss Nan Buttell, formerly of the Los Angeles Chamber of Commerce, assistant to Elofson; and Miss Peggy Guetter, editorial representative. Elofson continues as the New York advertising representative for the publications, dividing his time between the East and West Coasts.

Downtown St. Louis Airstrip Proposal Shelved by Council

The St. Louis City Council Airport Committee has deferred action on submitting an application to the National Park Service for temporary use of a portion of the Jefferson Memorial Plaza for a downtown flight strip experiment.

Friends and sponsors of the plan, designed to determine whether such strips in the hearts of cities are feasible, are disappointed by the apparent shelving of the program.

The proposal has stirred up much interest in St. Louis, and drawn favorable expression from several officials of the Civil Aeronautics Administration. The CAA has had the question of co-operating with the plan under informal discussion for some time, but formal action by CAA has been awaiting full agreement by the St. Louis interests.

The city and the National Park Service have spent nine million dollars clearing the Plaza area. It consists of a number of blocks along the river front which would afford a 3100-foot runway 165 feet wide.

The city law department in St. Louis had ruled that the Secretary of the Interior has the authority to permit temporary use of a portion of the Plaza for an experimental landing strip.

Davey V. P. of American Casualty

Fred N. Davey, formerly vice president of the insurance underwriting firm of Barber and Baldwin, has been named vice president of the American Casualty Co. and its wholly-owned affiliate, the American Aviation and General Insurance Co.

NEW STANDARDS IN AIR TRANSPORTATION

1903—First standards for "flying machines" were set by the Wright brothers at Kitty Hawk when their fragile biplane stayed in the air for twelve long seconds and flew the unbelievable distance of 120 feet.

1944 Lockheed Constellation

SETS NEW WORLD STANDARDS IN PERFORMANCE

Air transportation has reached a remarkable degree of efficiency since the Wright brothers first flew 41 years ago— progress which has reached a new peak in Lockheed's Constellation.

After the war, when it flies the airlines of the world, the new standards set by the Constellation will help make all countries neighbors.

Town connector, continent spanner and empire blazer, it not only shrinks space and time, but brings new safety, comfort and economy to air travel.

LEADERSHIP IN PERFORMANCE

Highest cruising speed of any transport ★ Longest range of any transport ★ Greatest load-carrying ability of any transport ★ Highest rate of climb of any transport ★ And these performances make the Constellation the safest of any transport

QUESTIONS

Q. Was special equipment used on the Constellation to set the 7-hour transcontinental speed record?
—L. R. K., Mobile

A. *No. It was a production line Constellation flying at cruising speed. Could do better if pushed.*

Q. Could the Constellation stop at our town's airport?
—S. K., Webb City, Mo.

A. *If an airliner can stop there now, the field is big enough for a Constellation.*

Q. How far can the Constellation fly — non-stop?
—Gene K., Kansas City, Mo.

A. *Actual figures are still secret. But it will span a continent with range to spare.*

Q. What does cabin pressurization mean? —L. S., Boston

A. *It means greater passenger comfort. "Pressurization" means that no matter how high the plane flies, comfortable cabin pressure is maintained at varying altitudes—controlled by the flight engineer—independently of how fast the airplane climbs or descends.*

Send in your questions. Address: Lockheed Aircraft Corporation, Department 69-55, Burbank, California

LOCKHEED

FOR DEPENDABILITY IN FLIGHT

LOOK TO *Lockheed* FOR LEADERSHIP

Reduction in Insurance Charges Offered by Parks on Ercoupes

Time Purchase Plan Carries Savings of 35 to 50 Per Cent

ANOTHER STEP toward making the purchase and operation of a small private plane as simple as buying and driving an auto has been taken by Oliver L. Parks of East St. Louis in offering lower insurance rates on an Ercoupe time-purchase plan.

Savings of from 35 to 50 percent to the buyer, depending on the policy selected, are described under a three-way financial working arrangement.

The insurance transaction is one of several moves initiated by Parks to open private flying to the average individual in the postwar era on price terms and under flight conditions which any average person can meet. The factors which he is attempting to wrap up in one bundle to deliver to the plane purchaser include lower sales prices, to be accomplished through mass production; better time-purchase terms; lower insurance rates; shorter instruction period; reduced maintenance costs; safer and easier flying and less bother on physical examination.

Ease of operation, plus the Ercoupe's spinproof qualities, were factors in the successful negotiation of the lower insurance rates.

Three types of insurance are offered. They are "limited hull" coverage, designed specifically to fit this model of aircraft; the "named peril" policy, limited to stated risks on the plane; and "comprehensive hull" coverage, which approximates the so-called "all risk" policy in standard aviation insurance, or the broadest insurance written on private planes.

Rates are $4.50 per $100 of insurance on the "limited hull" policy, $6.50 on the "named peril," and $9 on comprehensive coverage.

Under the time-purchase arrangement, the buyer is required to make a down payment of one-third or more on a new plane, or 40% or more on a used plane.

The reduced insurance premiums announced by Parks apply only to the Ercoupe, when sold only by Parks Aircraft Sales & Service, of which he is president; when cleared only through the Manchester Bank of St. Louis, and when the insurance is written only through General Insurors, Inc., headed by Chris J. Muckerman. Muckerman's general agency writes policies for the St. Louis Fire & Marine and the Washington Fire & Marine Insurance Companies, thus bringing into aviation these two companies possessing broad experience in other insurance fields.

A special feature of the insurance plan permits members of the buyer's immediate family to fly the plane, as well as any certificated pilot who operates it with his permission. The "hull coverage" on the purchase contract thus may cover the flight activities of several individuals.

A booklet issued by the Manchester Bank sets forth all details of the insurance plan, and tables by which can be ascertained the finance-insurance terms at payment schedules under contracts to run 90 days, or six, 12, 15 or 18 months.

The booklet also gives insurance tables on liability and property damage, which are at standard rates; passenger liability when planes are operated not for hire; tables of "hull insurance" on other types of planes; and price listings for all popular types of private-owned aircraft.

Parks, widely known for his campaign to build hundreds of small landing fields known as "airparks," also is encouraging the idea of simplification of ground course requirements. He doesn't believe that the busy banker, doctor or merchant should have to learn meteorology, theory of flight, history of aviation etc. to be qualified by the Civil Aeronautics Administration as competent to operate a small plane.

He further believes that the present regulations stipulating that an applicant for a private flyer's license must submit to an examination by a CAA designated medical examiner should be changed. If regular inspections by the family physician can be made an essential part of maintaining a private flyer's license, he believes that such procedure would fulfill all the necessary safeguards falling in the medical division of flight regulations.

Details of P-59 Jet Plane Released, But Facts About Gloucester Withheld

Bell Aircraft's P-59

FIRST detailed facts on the AAF's new jet-propelled fighter plane—the P-59—have been released by the Air Technical Service Command, but facts concerning Britain's Gloucester plane have been withheld.

"In appearance the jet ship closely resembles any mid-wing fighter," says the announcement. "The fuselage is slender, slightly more extended in the nose. The wing is laminar flow, flat and tapered, the empennage conventional. The big difference is the missing propeller. Flight power comes from two enclosed thermal-jet engines nestled next to the fuselage one on each side, under the wing roots.

"Basically the thermal-jet engine is amazingly simple. At the front of the engine is an air intake duct. The admitted air is immediately picked up by rotary compressors—high-speed fans—which force large quantities of air under pressure into the combustion chamber. Here it is mixed with the fuel, kerosene, and the mixture burned, the combustion causing constant high pressure. The tremendous force of the burning gases is directed through a turbine, another fanlike wheel which, thus impelled, spins at high speed. Its power is utilized to drive the compressors. Then the jet itself is nozzled down for greater force and emerges as a stream of gas driving the airplane. An outside source of electrical power is generally used to start the jet engine."

Britain's Gloucester

A British inventor, Group Captain Frank Whittle, RAF, perfected the jet engine which was the basis for one used today on the AAF fighter.

PAA, Assailed at Latin American Hearing

Eastern's Withdrawal of All Applications South of Canal Zone Called 'Blitzkreig'

By KENNETH E. ALLEN

(Maps on page 68)

CONCERTED ATTACKS on Pan American Airways as a monopoly in international air transportation and on Eastern Air Lines for having suddenly changed the scope of its applications highlighted developments in the Civil Aeronautics Board's Latin American hearing (Docket 525 et al) during the past fortnight.

Pan American steadfastly defended its position in the Latin American field, flatly recommending that all of the applications in the proceeding be denied with the exception of its own and those of Pan American Grace Airways.

Eastern's sudden switch in position, voiced by E. V. Rickenbacker, president and general manager, came with little more than 12 hours notice and drew a chorus of protest from opposing counsel, who characterized it as a "last minute blitzkreig." One attorney, Bon Geaslin of Waterman Steamship Co., demanded that the airline's application be dismissed, but Examiner Francis Brown allowed the hearing to continue after a reprimand to Eastern.

Testifying as the hearing moved into the close of the third week, J. C. Roop, Pan Am's vice president and treasurer, asserted that his company's position with respect to the other applicants was predicated upon these four categories:

1. That Pan American should be permitted to continue "long standing plans" in territories it has pioneered without "postponement by the injection of American flag competition;"

2. That the public interest requires a coordination of "express" and local services by a single carrier in the Latin American area;

3. That Pan American could not utilize the large, high-speed aircraft it proposes to use if there were a "dilution" of traffic "occasioned by the presence of more than one American flag operator, in addition to foreign operators;"

4. That foreign flag competition is likely to increase materially above the "very substantial amount which was in existence before the war," thus emphasizing the disadvantages to the public of the competition between American flag companies.

Roop disclosed that Pan American proposes to use the DC-7 for its long range express services in Latin America, the Lockheed Constellation for its intermediate express services, and a twin engine airplane characterized as "Type 12" for its local services. (The latter is a modified version of the Douglas Skybus.)

The Pan American official said the company's philosophy was based upon the theory of mass transportation at low rates. In the present case, he said, Pan American has already revised its proposed rates downward from 13c a mile to 9.3 a mile, and that by means of an integrated service without competition from American companies, the airline would show a profit before mail pay in the Latin American operations.

He pointed out, however, that this profit would "not suffice to provide an adequate return on the investment after taxes." In order to provide this return, he continued, "we will require at the start mail pay exceeding the compensatory rate." He said his company proposed a compensatory rate of two tenths of a mill per pound mile, based upon use of the large aircraft.

John C. Leslie, manager of Pan American's Atlantic Division, testified that he did not believe that it was in the public interest to grant any of the applicants between the U. S. and Bermuda because PAA is already providing a "superlative" service on the route, and that he anticipated keen competition from British and Canadian carriers.

Pan American's position did not go unchallenged. Opposing counsel took particular issue with the carrier's claim to having pioneered in the Latin American trade, and to Pan American's recommendation of no competition.

Schedules Not Coordinated

Pan American's foreign subsidiaries also received some attention from opposing counsel after Roop had disclosed that his company had been planning for some time to sell approximately 45% of the stock of Compania Mexicana de Aviacion to Mexico citizens. It was brought out under cross examination that Pan American holds a 20% interest in Aerovias de Guatemala, but that the American flag carrier had never coordinated any of its schedules with that carrier or any other in Honduras, Nicaragua or Costa Rica.

Rickenbacker announced that Eastern was withdrawing all of its applications south of the Canal Zone and would seek routes only to Tampico and Mexico from New Orleans, Houston, Corpus Christi, and Brownsville, and from New Orleans, Tampa and Miami to the Canal Zone, via Havana, Jamaica and Barranquilla, Columbia.

Rickenbacker said Eastern's sudden change in its applications was based upon changing world conditions and also upon the fact that his company of "all the domestic airlines in this proceeding is the only one which has the ability to effectively compete with the entrenched monopoly of Pan American." He said Eastern's proposed service would "free Pan American Grace Airways from dependence upon Pan American, its co-owner and competitor," by providing a connecting service into the U. S. at the Canal Zone.

Rickenbacker Cites 'Inadequacy'

Rickenbacker assailed the steamship companies for a "woefully indaequate" service between the countries in the two Americas and asserted that the steamship operators have no place in the air transportation field. In response to a question from Fred J. Knauer, Grace Lines counsel, Rickenbacker said it would be the fault of the steamship companies, not the airlines, if air transportation carried all overseas traffic.

Henry J. Friendly, Pan American counsel, pursued the change in Eastern's plans, establishing from Rickenbacker that the domestic carrier had not discussed the changes with any other airline nor with W. R. Grace Co., Eastern's largest single stockholder. The witness said the decision was reached by Eastern's executive committee.

Under further questioning from Friendly, Rickenbacker said Eastern had discussed with W. R. Grace Co., the purchase of its holdings in Panagra, but that Eastern was not interested. Panagra is an applicant in the Latin American proceeding.

"The great public need for relief from monopoly (Pan American's), and for an adequate and progressive program of air transportation between the American republics is too important a matter to be entrusted to less competent carriers (than Eastern), with the resultant lacks of that coordination and efficiency required to spur Pan American and at the same time meet the great public need," Rickenbacker declared in prepared testimony.

Sharing the spotlight with developments propounded by the moves of Eastern and Pan American, was the prime question of the entry of steamship companies into the air transport field. Steamship applicants injected the theory that to deny them that right would mean a threat to the Merchant Marine in the postwar period.

United Fruit Co., estimated a 45 percent diversion to the air of steamship traffic, and expressed fears of being unable to meet competition by foreign flag carriers, who already are engaged in air transportation or will be after the war. Both United Fruit and Moore-McCormack Lines disclosed that they had amended their charters to enable them to engage in air transportation.

Waterman Steamship Co., expressed the view that steamship cargo rates probably would have to be raised to compensate for losses in revenue brought about by the diversion to air. On this point,

CAB Calendar

Oct. 16—Hearing on North Atlantic route applications. (Docket 855 et al).

Oct. 16—Hearing on Panagra's application for local service between Lima and Iquitos, Peru.

Nov. 1—Hearing in San Francisco on West Coast applications, Oregon Airways, Inc. (Docket 250 et al).

Nov. 1—Hearing on South Atlantic route applications. (Tentative)

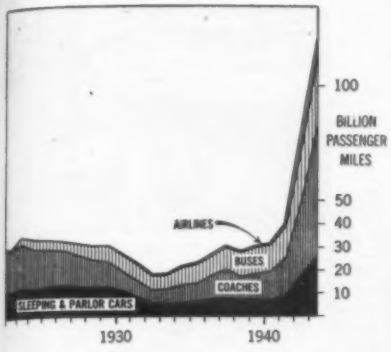
Nov. 20—Hearing at Ketchiken, Alaska, on applications of Ellis Air Transport and Ketchikan Air Service for routes in Ketchiken area.

Nov. 27—Hearing on Florida cases. (Docket 489 et al). (Tentative)

Dec. 4—Hearing on the New England cases. (Docket 399 et al). (Tentative)

Jan. 8—Hearing on Oklahoma-Texas applications. (Docket 377 et al).

Jan. 10—Hearing on North-Central Pacific and Alaskan routes. (Tentative)



Inter-City Travel— In its recently published booklet, 'New Airports and the Aviation Industry', Ford, Bacon & Davis, New York engineers, ran this chart showing all types of inter-city travel in the United States from 1922 to 1943.

however, the steamship operators showed little agreement, Moore-McCormack holding that it anticipated little diversion in cargo by virtue of the entry of air transportation into the South American trade.

Sigmund Janas, president of Colonial Air Lines, expressed flatly that he was opposed to steamship operators being allowed into air transportation, and also struck out at the "chosen instrument" policy. Colonial maintained that air routes to Latin America should not necessarily be developed along the lines of existing sea lanes, but along more economical routes.

The role of foreign air subsidiaries in the postwar era came in for some conjecture after Braniff Airways had stated that its proposed service to Mexico would be cheaper than that proposed by any other applicant because of its connections with Aerovias Braniff, S. A. Pan American spokesmen saw in that connection a threat to the whole international route structure, and the possibility that American companies having foreign subsidiaries might have to develop them to compete with American flag carriers.

National Air Lines came forth with the lowest passenger fare proposal, suggesting a cabin class fare of three and a half cents a mile. The company's base fare for its Caribbean operations would be five cents a mile, utilizing both Curtiss Commandos (CW-20) and Lockheed Constellations. National offered to take a certificate without mail pay.

Chicago and Southern predicated its case on the fact that it could provide one-carrier service over the shortest great circle course bounded by Chicago, Cleveland and Houston. Savings ranging from 300 to 700 miles would be accomplished between the U. S. and Mexico through its proposals C & S witnesses testified.

Crozier Studies North Atlantic

F. H. Crozier, chief of the CAB's research and analysis division, is expected to issue a revised study dealing with the North Atlantic area. It was understood from reliable sources that the revisions will not make any material change in the study's original conclusions. Crozier's Pacific study is expected to be released about Dec. 1.

Operations Features of DC-7 Disclosed by PAA at Hearing

Plane Described Only As 'Type 9' Ordered For Globe Girdling

SOME of the salient operations features of the Douglas DC-7 were disclosed last fortnight when Pan American Airways' exhibits in the CAB's Latin American hearing (Docket 525 et al) showed that it is one of three types of aircraft Pan Am proposes to use in its Caribbean, Mexican and South American operations.

Of the other two, one will be the Lockheed Constellation and the third a twin-engine aircraft which Pan Am spokesmen would identify only as "Type 12." (This plane is the Douglas Skybus.) The DC-7 was not named as such in Pan Am's exhibits, but was described only as "Type 9." Proposed use of this aircraft, along with a still unidentified "Type 10," was first disclosed in the Hawaiian hearing.

At a Washington press conference, Pan Am spokesmen confirmed rumors that "Type 9" was the DC-7, and also disclosed that the company has ordered 26 of the aircraft for use on world-girdling routes. The DC-7 would be utilized by Pan Am as a long-range express carrier, the Constellation as an intermediate range express carrier, and the twin-engine "Type 12" for local service.

Pan American spokesmen described the "Type 12" only as a land-type plane.

Pan American in its exhibits proposes to use the DC-7 on daily schedules between such points as New York and Rio de Janeiro, via San Juan and Belem; New York and Buenos Aires, via San Juan, Caracas, Manaos, and Asuncion; Los Angeles-Balboa, C. Z., via Mexico City, and Miami-Balboa.

For intermediate range service utilizing the Constellation, Pan American proposes, for example, to fly between New York and Port of Spain, via San Juan; Miami-San Juan, via Nassau; Miami-Barranquilla, via Kingston, and New Orleans-Mexico City.

With the "Type 12" Pan Am proposes daily local services between such points as Miami and Havana, Santiago and Port au Prince, Havana and Santiago, Ciudad Trujillo and San Juan. The aircraft would be utilized for twice weekly service between such points as Port of Spain and Georgetown, Victoria and Rio de Janeiro, and Cayenne and Belem.

In all, Pan American would use nine DC-7's, 18 Constellations and 23 "Type 12s" in the Latin American service. The following table gives comparative specifications of the three aircraft:

	Four-engine Type 9 (Douglas DC-7)	Four-engine Type 8 (Lockheed Constellation)	Twin-engine Type 12
Cost per fully equipped aircraft unit	$1,412,488	$727,288	$107,000
Take-off horsepower	3,500	2,600	800
Rated horsepower	2,800	2,250	700
Passenger capacity	107 day; night 54 berths	56 seats day, 8 berths, 44 seats night	24
Pressure cabin	Yes	Yes	No
Cruising altitude	20,000 feet	20,000 feet	10,000 feet
Cruising speed	296 mph @ 64.3% hp	322 mph @ 62% hp	226 mph @ 65% hp
Gross weight (take off)	162,000 lbs.	96,100 lbs.	20,000 lbs.
Gross weight (landing)	127,500 lbs.	82,000 lbs.	.....
Weight empty, equipped	96,250 lbs.	59,500 lbs.	12,230 lbs.
Cargo capacity	1,169 cu. ft.	882 cu. ft.	120 cu. ft.
Fuel consumption (per flight hour)	652 gallons	592 gallons	80.6 gallons
Oil consumption (per flight hour)	8 gallons	9 gallons	1.3 gallons
Cost per passenger mile	$.00199	$.00299	$.00597
Number of aircraft proposed for use*	9**	18	23
Type of service to be used in	Long-range express	Intermediate range express	Local service

Applies to Latin American service only.

***Nine aircraft would be assigned to service May 1-Oct. 31; six would be employed Nov. 1-Apr. 30.*

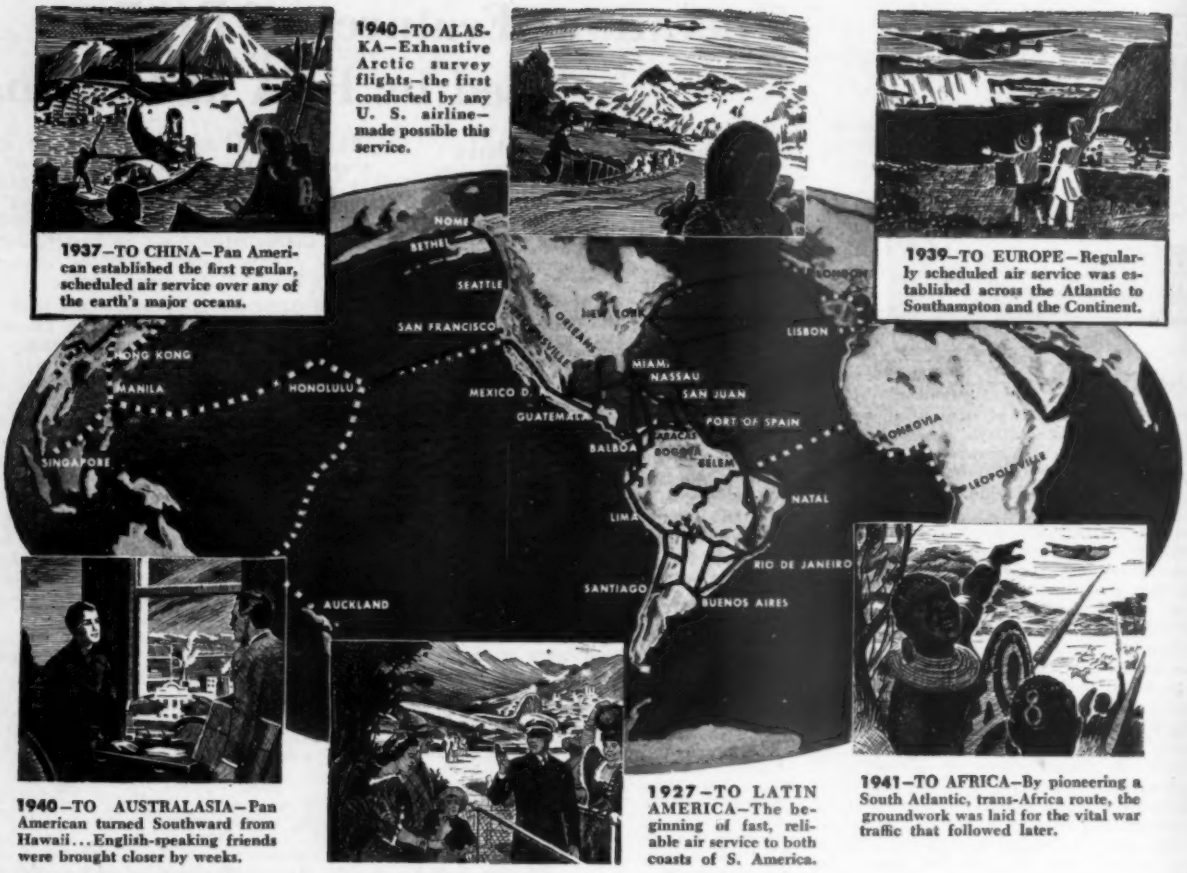
Seven Applications Lumped In South Atlantic Case

The CAB has consolidated for hearing in the South Atlantic Route case (Docket 1171 et al.) the applications of seven presently operating and prospective air carriers and has granted petitions to intervene to a half dozen petitioners.

Portions of the applications of Pennsylvania-Central Airlines (Docket 1508), and U. N. Airships (Docket 1306), and the entire applications of the following have been consolidated for the hearing (Docket numbers appear in parenthesis): American Export Airlines (1171), American South African Line (1597), Pan American Airways (1507), and Seas Shipping Co. (1366). Interveners will be TWA, Eastern Air Lines, Port of New York Authority, Greater Miami Port Authority, Baltimore Aviation Commission, and Norfolk, Va.

PAA Application Consolidated

Pan American Airways application for routes to Australia will be consolidated in the CAB's north-central Pacific cases, Examiner Ross Newmann announced following a pre-hearing conference Oct. 9. Pan American was the only applicant to appear.



1937—TO CHINA—Pan American established the first regular, scheduled air service over any of the earth's major oceans.

1940—TO ALASKA—Exhaustive Arctic survey flights—the first conducted by any U. S. airline—made possible this service.

1939—TO EUROPE—Regularly scheduled air service was established across the Atlantic to Southampton and the Continent.

1940—TO AUSTRALASIA—Pan American turned Southward from Hawaii...English-speaking friends were brought closer by weeks.

1927—TO LATIN AMERICA—The beginning of fast, reliable air service to both coasts of S. America.

1941—TO AFRICA—By pioneering a South Atlantic, trans-Africa route, the groundwork was laid for the vital war traffic that followed later.

Vital to Victory

These World Air-Transport Routes—

which are hastening Victory—were pioneered by Pan American *before Pearl Harbor* . . . Many are now available to civilians

THE MAP ABOVE tells a preparedness story of great importance to the American people.

Pioneered by Pan American in peacetime, to carry civilian passengers and U. S. Mail to five continents, most of the trans-ocean routes shown above have been in continuous operation ever since. War only *emphasized* the strategic importance to this country of overseas airports, radio stations and flying equipment put into operation by Pan American before the war started.

Back in "Civilian Clothes."—Recently, the Navy released for civilian air transport, Pan American's Alaska routes . . . Civilians can now fly aboard Trans-Atlantic Clippers as far as Newfoundland . . . Some seats are also available to civilians on Pan American routes throughout Latin America.

Please study the solid lines in the map (dotted-line routes temporarily unavailable). If you have need *today* to fly to any of the cities on the solid-line routes, consult your own travel agent, or the Pan American office in: New York, Chicago, Los Angeles, Washington, D. C., San Francisco, New Orleans, Seattle, Miami, Houston or Brownsville, Texas, for rates, reservations, and other up-to-date information. For International Air Express shipments, telephone Railway Express Agency, Inc.

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'Feederliner' Specifications Drawn Up By FAA Technicians at St. Louis

AN ALL-METAL, high wing, twin-engined monoplane, capable of landing and taking off within 1,000 ft., with a cruising speed of 170 mph, and a range of 500 miles, will be the "feederliner" of the future, members of the Technical Committee of the Feeder Airlines Association decided at a recent meeting in St. Louis.

The committee was picked by the association to correlate the equipment ideas of all of its members, many of which have had feeder experience. Although the group did not attempt to present a too detailed list of specifications, it set forth the main features "which must be embodied in the design." More detailed specifications than were made public have been submitted to aircraft manufacturers for their consideration and proposals.

According to a report issued by Oliver L. Parks, Committee Chairman, the "Feederliner" must:

> (1) Be an all metal, high wing, twin engined monoplane equipped with complete instrument and night flying equipment, and full feathering propellers; (2) be capable of landing and taking off within 1000 feet, fully loaded; (3) have a cruising speed of 170 miles per hour; (4) have a range of 500 miles plus the required reserve; (5) have a maximum gliding angle of 7 to 1; and (6) be equipped with tricycle landing gear designed to take care of 20 miles per hour cross winds.

"Seating capacity 18-22 passengers at 200 pounds per passenger, including baggage; a baggage space so arranged that each passenger will be responsible for his own baggage thus eliminating a checking system. Seating arrangement shall be such that seats will not need to be individually assigned due to load distribution.

"Cargo capacity of 2000 pounds (this will include pick-up equipment if used). A moveable bulkhead shall be incorporated in the design between the forward cargo compartment and the passenger section in such a manner that seats can be removed and the cargo compartment enlarged in a period of time not exceeding ten minutes for the entire operation. Last twelve seats in the passenger section shall be permanently installed.

"Size of passenger door 30" by 70". Front cargo door 60" by 60". Rear cargo door 30" by 30". All doors to be on left side.

"The airplane shall be so designed structurally that a pick-up unit can be installed at any time without structural change. It shall be stressed for a maximum pick-up load of 300 pounds using a unit similar to that used by All American Aviation. Complete pick-up unit not to exceed 100 pounds in weight.

"Manufacturers must keep in mind that all flying will be done at 500 to 1000 feet above the surrounding terrain and that landings will be made on an average of every fifty miles. It is expected that, at the outset, at least fifty per cent of the landings will be made on turf runways which will necessitate a rugged braking system and oversize tires.

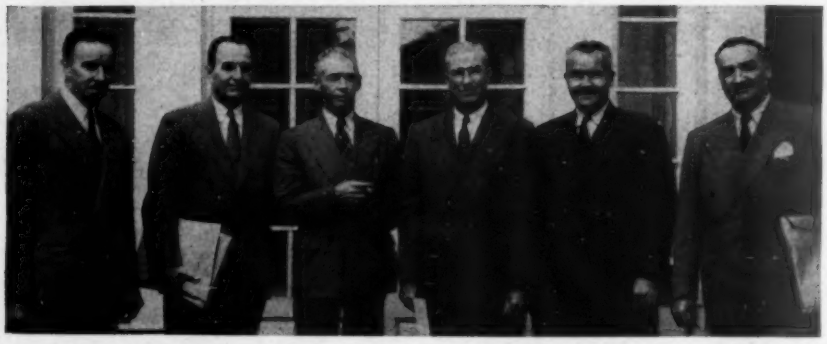
"Other features of the "Feederliner" are:

> (1) Interior appearance and appointments equal to the DC-3; (2) air conditioning, heating and cooling; (3) individual reading lights, ventilators, and co-pilot call button for each seat; (4) chemical toilet with wash stand, and (5) drinking water supply."

With a goal of sixty seconds maximum ground time at each stop much thought was given at the meeting to new ground equipment and several time-saving features have been incorporated in the design of the airplane:

> (1) Under tank refueling; (2) retractable passenger steps that will automatically lower into place when the passenger door is opened, and (3) if possible, a minimum of eight bins shall be provided, under the floor, with individual outside self-locking doors provided for small mail and express packages destined for separate points enroute.

Present at the meeting in addition to Parks were Halsey R. Bazley, President of All American Aviation, Inc., Wilmington, Del.; Colonel Herbert C. Fox, President of Southern Aviation Corp., Nashville, Tenn.; Bowman R. Otto, President of Otto Aviation Corp., Newark, N. J.; Eugene R. Scroggie, Operations Manager of Ryan School of Aeronautics, San Diego, Calif.; Don V. Seevers, Executive Director of the Association and Phillip C. Wagner of Parks Air College, East St. Louis.



Technical Committee of Feeder Association— This group recently met in St. Louis to discuss specifications for future 'Feederliners.' Left to right—Don V. Seevers, executive director of the Feeder Airlines Association; Oliver L. Parks, president of Parks Air College and chairman of the technical committee; Halsey R. Bazley, president of All American Aviation; Eugene R. Scroggie, Ryan School of Aeronautics; Bowman R. Otto, president of Otto Airlines; and Herbert C. Fox, Southern Aviation Corp.

Continental Nets $126,305 For Six-Months' Period

Continental Air Lines made a gross profit of $231,604.53 during the six months' period ending June 30, 1944. Continental's net profit for the period was $126,305.75 after deducting $105,298.78 from the gross profit figures for state and federal income tax and miscellaneous expense. Passenger revenue for the period was $457,276.79, an increase of 17.7 percent over the preceding six months.

North-Central Applications Consolidated

APPLICATIONS of more than 30 present and prospective air carriers seeking routes in the north-central states have been consolidated for hearing in the CAB's North Central case (Docket 415 et al).

Portions of the following applications have been consolidated for the proceeding: American Airlines (Docket 932), Burlington Transportation Co., (Docket 922), Chicago and Calumet District Transit Co., Inc. (Docket 1262), Cloud Airlines (Docket 1263), Gateway City Transfer Co., Inc., (Docket 1254), Hannaford Airlines, Inc., (Docket 637), Inland Air Lines (Dockets 900 and 901), Mandel Brothers, Inc. (Docket 1283), Mercury Development Corp., (Docket 586), Parks Air College (Docket 1181), Pennsylvania-Central Airlines Corp. (Docket 1013), Plaza Express Co. (Docket 1185).

The following applications have been consolidated in full (docket numbers appear in paranthesis):

Automatic Air Mail, Inc. (415), Bos Air Cargo (1128), Central States Aviation Corp. (1117, 1118, 1320), Century Aviation Co. (680), Chicago and Southern Airlines (1064, 1073), Chicago, Black Hills and Western Air Lines (780), Clear Ridge Aviation (1265), Cloud Airlines (1264), Des Moines Flying Service, Inc. (829), Eastern Air Lines (1500), Hogan Air Lines (1353), Inland Air Lines (899), Iowa Airplane Co., Inc., (1211), Maxwell Elmer McCornock (1273), Mid-Continent Airlines (677, 884), Midwest Airways, Inc. (1272), Mutual Trucking Co. (992), Nebraska Airlines (1321), North Central Airlines (1490), Northwest Airlines (650, 1095, 1101, 1242), Donald W. Pennertz (1571), Racine Flying Service, Inc. (1156), R-B Freight Lines, Inc. (944), United Air Lines (583, 1214, and 1467), Van Meter Streeter & Co. (1328), Western Airlines (1449, 1452, 1465), Wisconsin Central Airlines (1464).

THESE are cylinders. These are beginnings—the start of a mightier machine than even war built. For it was the American Machine of Industry that built the American Machine of War—and its greatest job will be tomorrow: building a new world of Peace and Prosperity. It will be the most gigantic task man ever faced and it is as important in its details as in its conception.

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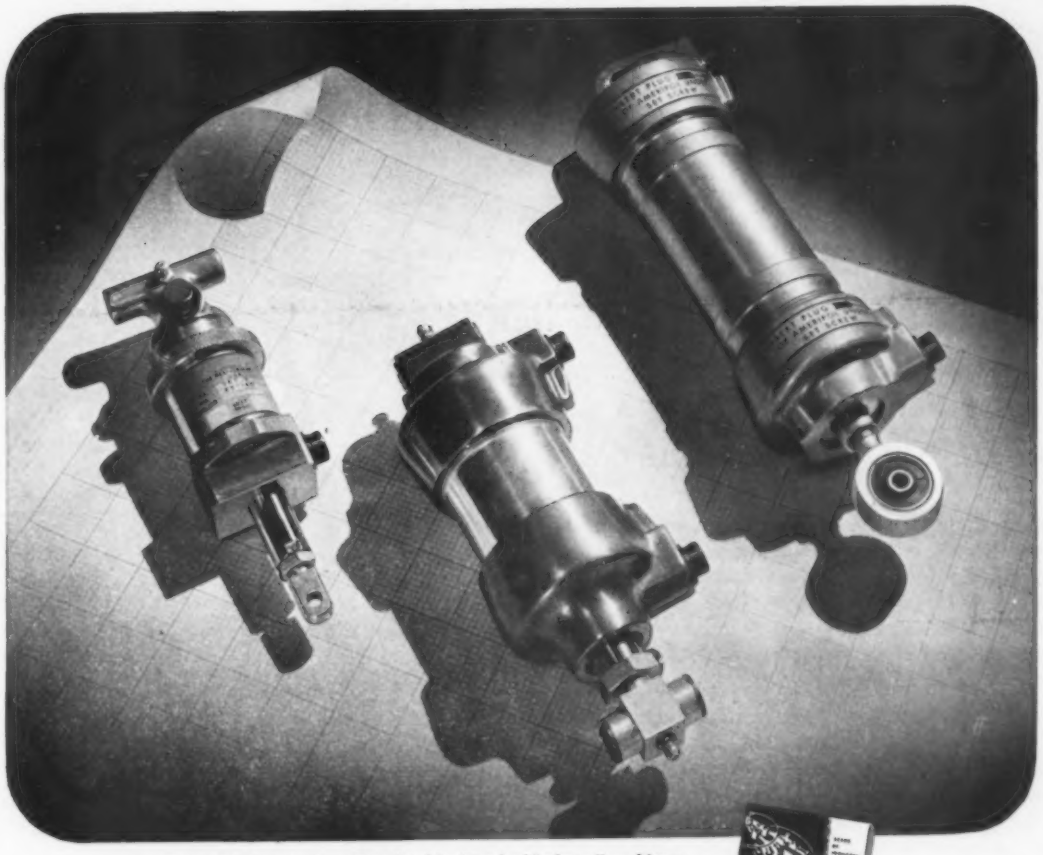

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New Air Services

Delta Adds 4 Flights

Delta Air Lines has added four new flights, consisting of a third round-trip between Atlanta and Cincinnati, and a fifth round-trip between Atlanta and Dallas-Fort Worth. R. S. Webber, general traffic manager, said return of equipment from the Army made the additions possible, and that the flights were being added on routes most heavily traveled by military and civilian personnel whose trips are related to the war effort. The new round-trip to Texas leaves Atlanta at 6:10 a.m. and the new trip to Cincinnati departs Atlanta at 4:40 p.m.

PAA Re-opens Belgian Congo Line

Pan American Airways resumed on Oct. 8 its three-continent round trip service between Miami and Leopoldville, capital of Belgian Congo. The service was discontinued for a short time when the carrier's temporary certificate, issued on a war necessity basis, was cancelled by the Civil Aeronautics Board on notification by the Secretary of War that the service was no longer required in the interests of the war. A few weeks later the Secretary of War asked that the certificate be renewed on the basis of a newly developed war need and CAB reissued the certificate.

Operating and technical personnel have returned to Leopoldville, following a 12-day, 15,000-mile flight. Mail, cargo and passengers will be carried over the route, which includes stops at San Juan, Natal, and Monrovia. The scheduled trips will require 10 days under normal operations.

Pan American also has inaugurated new night flights between Brownsville, Texas, and Mexico City, opening up the Mexican Capital to night operations.

Connecting with Eastern Air Lines' flights from New York City, Washington and New Orleans, Clippers fly nightly over this practically all-weather route.

Leaving New York by Eastern at 8:15 a. m., passengers arrive in the Mexican capital by midnight, or leaving New York at 7 p. m., they reach Mexico City at 11:20 a. m. Northbound, planes leave Mexico City at 6 p. m. and arrive in New York via Eastern at 1:19 p. m., and by leaving at 6 a. m., they arrive in New York at 1:19 a. m.

EAL Opens Direct Miami-Chicago Line

Direct air line service between Miami and Chicago via Tampa was inaugurated October 1 when Eastern Air Lines added another flight to the West Coast of Florida. The addition of this new schedule doubles Eastern's service north and south through Tampa and Tallahassee, providing two flights in each direction daily. In addition to the evening flight to Atlanta and New York which leaves Miami at 7:30 p. m. and Tampa at 9:10 p. m., the new direct plane to Chicago leaves Miami at 10:35 a. m. and Tampa at 12:15 p. m. Gratis luncheon is served on departure from Tampa, with arrival in Tallahassee at 1:46 p. m. Atlanta, Chattanooga, Nashville, Louisville, and Indianapolis are points of call on the new schedule, and the flight arrives in Chicago at 8:01 p. m.

Southbound, the flight leaves Chicago daily at 11:30 a. m., arriving in Tampa at 8:56 p. m. This flight continues on to Miami, leaving Tampa at 9:10 p. m. and arriving at 10:38 p. m.

Connections to many points in the midwest and on the Pacific Coast are provided by this new service through the coordinated schedules of connecting air lines.

Improved C. & S. Service

Chicago and Southern Airlines announces that since Oct. 1 seven round-trips have been run daily between Chicago, St. Louis, and Memphis; two round-trips between Memphis, Little Rock, Shreveport, and Houston; and four round-trips between Memphis, Jackson, and New Orleans.

Airline Commentary

Wanta know why airline planes are sometimes late in departing . . . We have here a report, which Mid-Continent Airlines' Tulsa station manager swears is true . . . All airline passengers please read . . . Here's his report, which reached us through the underground: "The second airport limousine did not arrive at the field until 1940. The reason is as follows, told by the limousine driver and passengers aboard the limousine. The cab started from downtown on schedule. After arriving at the X Hotel and picking up the passengers and proceeding to the Y Hotel, one of the ladies noticed her husband's briefcase among the luggage and asked the driver to return to the X Hotel to find her husband and return the briefcase. The driver returned the case to the desk, after being unable to locate the man. After relating this to the lady, she asked the driver to proceed to the Z garage so that she might advise her husband as to what had been done with the briefcase. This necessitated driving around the same block for the third time. After satisfying this lady, he then proceeded to pick up the other passengers. However, upon arriving at A St. to pick up Mrs. B, he was asked to carry two bags from the house. These were loaded in the cab and the driver waited for her to come out. When she did not appear in five minutes, he entered the house again and found her with three more bags which he also loaded in the cab. However, she still did not appear, so he again entered the house and advised her that if she did not hurry she would cause herself and the other passengers to miss the flight. She, however, seemed sure that the plane would wait. After much persuasion, she left the house but proceeded to the garage. There she gathered hammer and nails and requested the driver and passengers to aid her in nailing the house door closed. This was done and they had gone only one block when she discovered she had left her coat. They then went back, unnailed the door, picked up her coat, nailed the door closed again, and proceeded to the field, hoping that nothing had been left undone. When Mrs. B. came to the counter she requested a refund on a ticket she had purchased at an earlier date. She also had 81 pounds of baggage, and after purchasing insurance, she insisted upon asking so many questions that it was impossible for the ticket agent to check in the remainder of the passengers for some time. A delay of eight minutes was caused" . . . How MCA ever held the delay to only eight minutes we'll never know . . . Anyhow, this story speaks for itself—no comment is needed . . .

●

We hear that Western Air Lines had some of its top men inducted into the Singing Tribes of Wa-Hoo at Rapid City, S. D., recently . . . President William Coulter was given the tribal name of Sky Chief . . . Our friend Leo Dwerlkotte, executive vice president, was named Eagle Brains . . . However, the prize name went to serious, hardworking Jerry Brooder, regional traffic manager of the Inland division . . . His tribal name is Sunk-manitu-Kiya, which translated means Flying Wolf! . . .

●

We have here a letter from Capt. George J. Wells, Delta Air Lines' pilot . . . "About two issues ago," says Capt. Wells, "I read (in this column) about some uneasiness experienced by the passengers of an airliner coming into a midwestern airport. I sincerely hope that this was not on Delta. The Delta operations manual states our policy as follows, in order of importance: (1) there is no compromise with safety; (2) passenger comfort, and (3) schedule. It will be well for airline captains to remember that many multi-engine pilots are coming home soon who don't want to go back to the farm, and I, for one, am not only trying to be the oldest pilot, but striving also to impress our passengers with a safe, sane and orderly operation. The old timers who are off to war left us a lot to live up to. I hope we don't let them down." . . . We reiterate what we said before, that only a very small percentage of pilots aren't giving as much thought to passenger comfort as they should . . . For your information, Capt. Wells, it wasn't Delta . . . Shamefacedly we admit that we have yet to take our first ride on Delta . . .

●

We thought maybe you'd like to have a brief report on Howard Westwood, who, at least in our books, is one of the best air transport attorneys in the business . . . As counsel for the Air Transport Association, Howard handled many tough problems for the industry . . . A few months ago, he entered the Marines as a private at the Parris Island station . . . According to second-hand reports we've had, he's doing so well with a gun down there that he's now instructing . . . Best of luck, Howard . . .

Eric Bramley

Feeder Route in Pacific Islands Requested in CAB Application

APPLICATIONS for overseas routes, including a Pacific islands "feeder" service highlighted a continuing flood of applications to reach the Docket Section of the Civil Aeronautics Board during the past fortnight. Western Air Lines and Hawaiian Air Lines, Ltd., set the pace for international routes, both seeking to fly to the Orient.

A project engineer at Douglas Aircraft Co., Santa Monica, Calif., meantime, established a new angle in "feeder" services by proposing to serve islands in the Southwest Pacific, ranging from Wotje Atol to Manila, and from the Palau Islands to Halmehera, making connections with Pan American Airways and Netherlands Indies Airways.

Pan American changed its role somewhat by applying for domestic bases at Boston and Baltimore on the Atlantic seaboard and to Detroit and Chicago in the interior of the U. S. Aviation circles construed this as Pan Am's partial answer to the ambitions of certain domestic airlines which are now engaged in pressing their applications for international air routes, many of which would parallel PAA's existing operations.

Following is a brief summary of the applications filed:

Aerovias Braniff, S. A.

This company has applied to the CAB for foreign carrier permits to operate over three routes between Mexico City and the U. S. The application states that the company presently holds experimental permits from the Mexican Department of Civil Aeronautics to operate routes similar to those applied for.

Applicant proposes to operate between Mexico City and Los Angeles, via Cuidad Chihuahua and Mexicali; between Mexico City and Miami, via Merida, Yucatan and Havana and between Mexico City and Balboa, C.Z., via Gautemala City, Tegucigalpa, Honduras; Managua, Nicaragua, San Jose and Panama City. Conventional aircraft will be used in the transportation of persons, property and mail. (Docket 1635).

American Export Airlines

This carrier has applied to the CAB for a temporary exemption authorizing trans-Atlantic operations during the winter months (Oct. 15-May 31) (1) westbound from Foynes via Bathurst, Gambia, Belem Brazil, and Port of Spain, and/or San Juan, P. R., and (2) eastbound via Bermuda. (Docket 1636).

Essair, Inc.

Joint applications have been filed with the CAB by this company and two of its officials—W. F. Long, vice president and chairman of the board of directors, and L. H. Luckey, vice president and general manager—to approve interlocking relationships. Long holds a controlling interest in Dallas Aviation School and Air College, Dallas Aviation School, Inc., and Terrell Aviation School, Ltd., Terrell, Tex., while Luckey is also associated with the latter school as a director and partner, the applications state. (Dockets 1609-1610).

Hawaiian Airlines, Ltd.

This carrier has filed an amendment to its application under Docket 1491 providing for the following substitution in its proposed route to the Orient: Honolulu to Shanghai via Midway, Wake, Marcus Island and Tokyo, Japan.

Northeast Airlines

This carrier has applied to the CAB for an amendment to its certificates to consolidate Routes 27 and 65 and the Mayflower routes into a single route to be designated as Route 27. The Bangor-Moncton and Montreal-Burlington portions of Northeast's present Route 27 would be excepted from the consolidation. (Docket 1607).

Pan American Airways

This applicant seeks additional international gateways at Chicago, and Baltimore as co-terminal points in the U. S.; the substitution of the landplane airport at Montreal as intermediate point on the Chicago service for the seaplane airport at Shediac, Canada, as intermediate point on the New York service, but without the right to carry traffic originating at one point and destined for another point in the continental U. S. Applicant also seeks amendments and extension of its transAtlantic "great circle" route to extend beyond London and/or Paris to Berlin, Moscow, Rome, Cairo, and Calcutta, and amendments and extensions of its transAtlantic "all weather route" to the Azores by land aircraft, with an extension to Paris, and Madrid, Lisbon and Marseilles as intermediate points, with extensions to Rome. (Docket 1506).

United Air Lines

This carrier has filed an amendment to an Alaskan application filed May 19, seeking to provide service between Seattle and Fairbanks, Alaska, via Ketchikan, Juneau, Yakutat and Anchorage. (Docket 1406).

Western Air Lines

This applicant has filed two applications with the CAB today seeking routes to Alaska and the Orient over which it proposes to use DC4's for the transportation of persons, property and mail. One application seeks authority to fly between the terminal points Anchorage, Alaska, and Batavia, Java, via the intermediate points: Dutch Harbor, Kiska, Paramashiru, Kurile Islands; Tokyo, Shanghai, Hongkong, Manila, Tarakon, Borneo, and Singapore. The other application names Honolulu and Batavia as the terminal points via two routes: (a) Tokyo, Shanghai, Hongkong and Manila, and (b) Guam, Manila, Tarakon and Singapore. (Dockets 1627-1628).

Dade Brothers

This applicant of Mineola, N. Y., has applied to the CAB for a certificate authorizing non-scheduled air transportation of heavy machinery over irregular routes in the U. S. Applicant proposes to use five cargo planes of a type suitable for carrying such commodities as road machinery, structural steel, and oil field equipment in coordination with its present motor transportation system. Applicant also proposes to engage in the boxing and preparation of aircraft and aircraft parts for shipment. (Docket 1612).

Faster Flying Freight

This applicant of 707 Republican National Life Bldg., Dallas, Tex., has applied for non-scheduled service for the carriage of property and mail between Dallas-Ft. Worth and Mexico City, via the intermediate points, Waco, Austin, San Antonio, Laredo, Monterrey, Mexico; Tampico, Brownsville, Harlingen, McAllen, Edinburg, and Houston. (Docket 1607). Applicant has also filed an amendment to its application filed under Docket 1569 removing a request for non-scheduled service.

W. Dev. Lomax, C. E.

This individual of 1401 Midvale St., Los Angeles, has filed an application with the CAB seeking authority for non-scheduled "feeder type" operations among the islands of the Southwest Pacific. Lomax, who is presently employed as a project engineer on the C-54 at Douglas Aircraft Co., proposes to use C-46's and C-47's in the operation, making connections with Pan American and Netherlands Indies Airways.

Lomax proposes four routes: (1) Wotje Atoll to Manila, via Kwajalein Island in the Marshall Islands to Ponape Island thence to Truk, Woleai Island, Palau Island in the Carolina Islands and to Davao; (2) from Wotje Atoll to Makin Island; (3) from Truk and/or Palau Islands to Guam via Yap to connect with Pan American, and (4) from Palau Islands to Halmehera to connect with Netherlands Indies. (Docket 1630).

New England Airways

This applicant of 58 Fairhaven Rd., Worcester, Mass., has filed an application with the CAB requesting a temporary or permanent certificate for the transportation of persons, property and mail and for aerial pickup services on five "short haul" routes out of Worcester. Terminal points in addition to Worcester include Portland, Me., Rochester, N. Y., Burlington, Vt., and New York. Applicant proposes to use twin-engine equipment. (Docket 1629).

North American Airlines

This applicant of 917 15th St., N.W., Washington, D. C., has filed an application seeking to transport persons, property and mail by convention aircraft by a circle route out of Chicago to cities in the Lake Michigan area. Intermediate stops proposed are Waukegan, Kenosha, Racine, Milwaukee, Sheboygan and Green Bay, Wisc., Traverse City, Cadillac, Muskegan, Grand Rapids and Kalamazoo, Mich., and South Bend and Gary, Ind. John Luttrell is listed as president of the company, which proposes to use either DC-3's or Lockheed 14's in its service. (Docket 1601).

Northern Airlines

This Duluth, Minn., company, made up of sixty commissioned and non-commissioned officers of the U. S. Naval Air Arm and the Royal Canadian Air Force, applied for permission to operate an air service between Duluth and Winnipeg, Manitoba, using converted Catalina Amphibians.

The proposed service would include a stop on Lake of the Woods, Canada, "for the special benefit of sportsmen."

The group also asked permission to operate routes between Duluth and Fort William, Ontario, and between Duluth, Chicago, Minneapolis and Milwaukee. Conventional transports to be obtained from the Navy's stock of surplus aircraft would be used on these routes, according to Ensign Jack S. Cavanaugh, president and general manager of the airline.

Cavanaugh said that "since the end of the war may be within sight before too long, the immediate concern of every man out here is fast becoming the question of how to earn a living again, so we would sincerely appreciate some early expression from the Board."

The Chicago-Duluth portion of the proposed routes would include stops at Milwaukee and Wasau, Wisconsin, and Minneapolis. The Duluth-Winnipeg leg would include a stop at Fort William, Canada.

The application was filed by Lowell Lawson, attorney, 332 S. Michigan Ave., Chicago. (Dockets 1602-1603).

Prairie Airlines

This company of Starkville, Miss., has filed an application to transport persons, property and mail over a feeder line between Starkville and Memphis, Starkville and Birmingham, and Starkville and Jackson, Miss., non-stop. Applicant proposes to use single engine aircraft, but will offer to use small,

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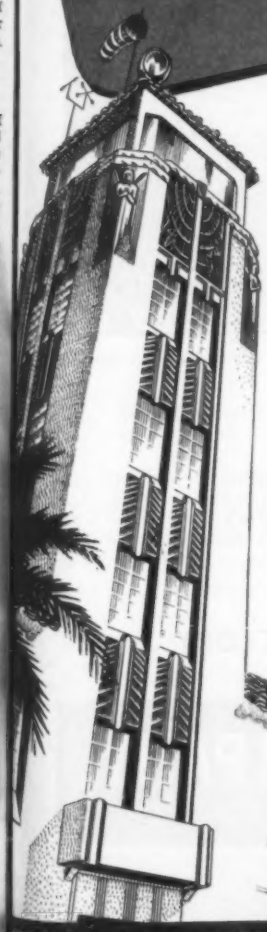

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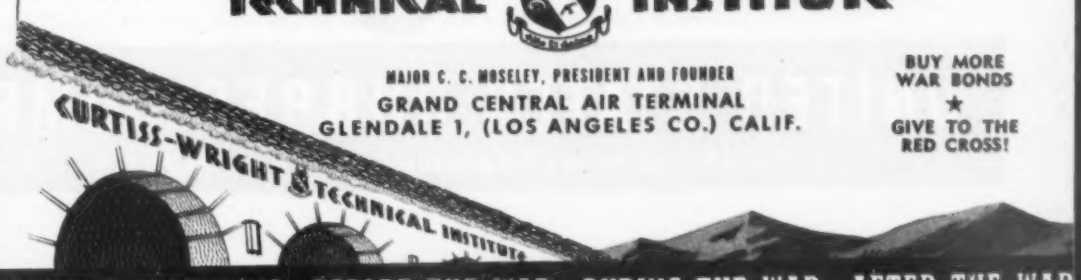

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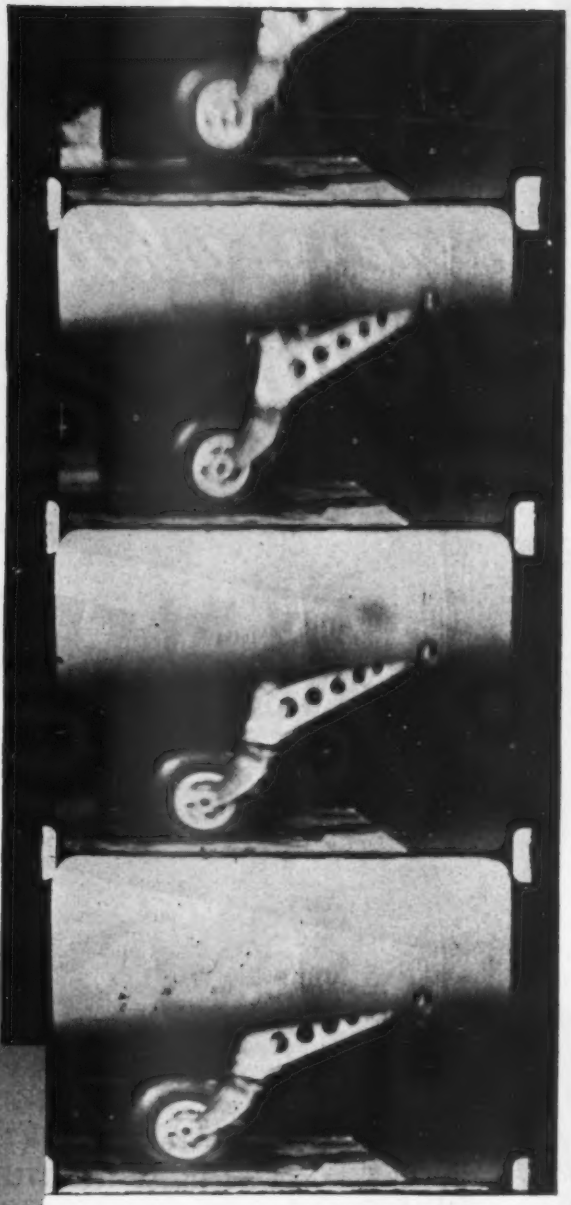
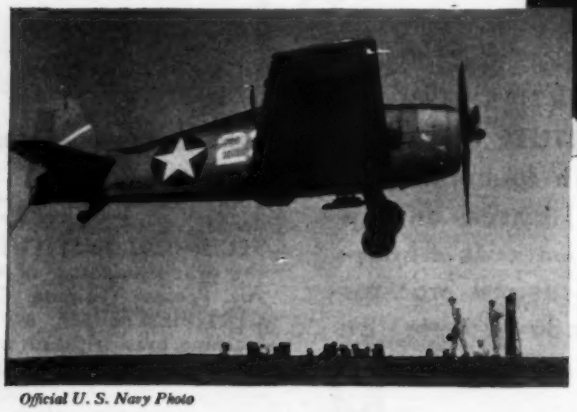


Official U. S. Navy Photo (Unretouched)

Under full load, the tail wheel tire strikes the landing strip and squashes almost flat under the impact.



Official U. S. Navy Photo

A Navy Grumman Hellcat fighter comes in for a landing on a first line aircraft carrier operating in a Pacific Fleet task force. Where you find the Navy's fighters, you'll find U. S. Royal Airplane Tires on deck.

SERVING THROUGH SCIENCE ***TO SPEED THE VICTORY***

UNITED STATES RUBBER COMPANY

1230 Sixth Avenue · Rockefeller Center · New York 20, N. Y.

Meet Joe

TEST PILOT FOR MICROPHONES

Joe is a war worker. He plays a part in the design of new types of microphones for our armed forces—for example, the microphone for use inside an oxygen mask, and the new lip microphone. No beauty, perhaps, yet his chamois covered face closely approximates the human skin in texture and acoustical properties. Bell Telephone Laboratories engineers created him to aid in designing and fitting microphones, and to serve as a guinea pig in making acoustical and electrical measurements.

In himself, Joe is not important, but his development is one more example of the ingenuity and attention to detail resulting from Western Electric's *75 years of leadership* in the manufacture of communications equipment—and another assurance of even better products after the war.

75TH ANNIVERSARY

Western Electric

ARSENAL OF COMMUNICATIONS EQUIPMENT

twin-engine airplanes if the CAB so requests. (Docket 1611).

Springfield Feeder Lines

This applicant of 1121 Liberty St., Springfield, Mass., has applied to the CAB for a network of feeder lines totaling 515 miles, between the terminal Springfield and the following points: Boston, New York, Albany, Providence, Hayannis, Mass., Hartford, Conn., Windsor Locks, Conn., and Westfield, Mass. The company proposes the transportation of persons, property and mail in conventional aircraft at rates ranging from $1 to $6 in the Springfield area only. Applicant does not propose a Boston-New York service. (Docket 1613).

United Transports

This company has filed an amendment to its previous application (Docket 999) restricting commodities proposed to be carried by aircraft to motor vehicles, their parts and accessories between manufacturing points in Michigan and all points in the U. S. Applicant proposes to use both conventional aircraft and gliders.

CAB Approves PAA's Acquisition of CNAC

The Civil Aeronautics Board in a unanimous opinion has approved the acquisition of China National Aviation Corp., by Pan American Airways, Inc. and Pan American Airways Corp. The CAB directed that semi-annual financial and operations reports of China National be submitted to it.

The Board in its opinion said the only change involved in the acquisition would be a dissolution of China Airways Federal, Inc., U. S. A., whose sole assets consisted of 1,873 shares constituting approximately 45% of the issued and outstanding stock of China National, and the transfer of that company's stock to Pan American, resulting in substantial economies for PAA.

"Clearly the proposed transaction is not inconsistent with the public interest," the CAB held. "The record in this proceeding is devoid of any evidence which would support a finding that the proposed acquisition of control will restrain competition or jeopardize another air carrier."

Drinkwater Should Remain Director of ATA Until Elections, Says Gorrell

Col. E. S. Gorrell, president of the Air Transport Association, has recommended that Terrell C. Drinkwater, vice president of American Airlines, remain as a director of the ATA until the annual election in November. The recommendation is expected to be confirmed at a meeting of the ATA in Washington Oct. 20.

Drinkwater submitted his resignation as a director when he left Continental Air Lines Sept. 1 to join American, pointing out that he was elected to the board to represent the small airlines and that American already had representation on the ATA board. Other directors are W. A. Patterson of United Air Lines, O. M. Mosier of American, E. V. Rickenbacker of Eastern, C. Bedell Monro of PCA, Jack Frye of TWA, and T. E. Braniff of Braniff Airways.

Route Mileage of Domestic Lines 2½% More Than in Prewar Period

Total on September 1 45,082 Mi. as Against 43,975 in May, 1942

AS INDICATED in recent orders of the Civil Aeronautics Board, the domestic airlines are not only rapidly approaching a reestablishment of the prewar certificated route pattern, but they are now actually operating 2½% more route mileage than prior to the adoption of the wartime air service pattern established in May, 1942.

Figures supplied by the Research and Analysis Division of the CAB show that total route mileage as of Sept. 1 was 45,082. This represents a 2½% increase over the 43,975 miles operated prior to the adoption of the war service pattern and a 23% increase over the 36,755 miles operated as of July 1, 1942.

Between May, 1942, and September, 1944, a total of 4,344 route miles have been restored to service. This total includes 558 miles on Inland Air Lines Route 35 on which the suspension has been lifted, but service has not been inaugurated; 695 miles on TWA's Route 37 which had only a week's suspension before service could be resumed, and 544 miles on Continental Air Lines Route 43 which also had a suspension of relatively short duration before service was resumed.

The addition of schedules to handle increased wartime business accounted for the tremendous increase in route mileage operated. Between April 1 and Sept. 1, a total of 109 round trips have been added to the service pattern, in addition to eight all-cargo flights operated by TWA, Eastern Air Lines, United Air Lines, and American Air Lines. The CAB since October 1 has authorized an additional 14 round trips, but service has not yet been inaugurated.

Since April 1, New York-Boston traffic has received the lion's share of attention in the increase in roundtrip schedules. Eastern has received authorization for the inauguration of six such schedules, while American has already added 14 in the five-months period. Other "busy" spots have been Los Angeles-San Francisco, where Western Air Lines has been added three roundtrip schedules, Spokane-Seattle, where Northwest has added three, and Norfolk-Washington, where PCA has added six.

In the same five-months period, roundtrip deletions have totaled only five. These included Eastern between New York and Miami, Braniff Airways between San Antonio and Corpus Christi, National Air Lines between Miami and Key West, and Eastern between Chicago and Miami, via Atlanta and Jacksonville.

The following table provides a chronological tabulation of revisions in the air service pattern since Sept. 1:

Effective Date of Revision	Carrier	Route(s)	Route Segment	Round Trips Added	Round Trips Deleted
Sept. 1	PCA	14	Norfolk-Washington	1	
		14	Norfolk-Detroit	1	
		14	Washington-Pittsburgh	1	
		34	Washington-Baltimore	1	
		46	Pittsburgh-Buffalo	1	
Sept. 1	United	1	New York-San Francisco	1 c	
Sept. 1	American	7	New York-Chicago	1 c	
"		23	New York-Ft. Worth	1	
Sept. 1	Western	13	Los Angeles-Salt Lake City	1	
		19	Salt Lake City-Butte	1	
Sept. 5	Braniff	9	Dallas-Chicago	1	
"		50	Houston-Austin-San Antonio	1	
"		15	Dallas-Houston	1	
"		15	Dallas-San Antonio	1	
"		15	San Antonio-Corpus Christi	1	
Sept. 15	American	7	New York-Chicago	1*	
"		7	New York-Detroit	1	
Sept. 15	TWA	61	Washington-Dayton	1	
"	TWA	2, 36, 44, 61	Washington-Kansas City	1	
		37	Los Angeles-San Francisco	1	
Sept. 25	Delta	54	Cincinnati-Atlanta	1	
		24	Atlanta-Ft. Worth	1	
Oct. 1	Chi. & Southern	8	Chicago-Memphis	1	
Oct. 1	United	11	Seattle-Los Angeles	1	
Oct. 1	Chi. & Southern	8	Chicago-New Orleans	1	
Oct. 1	Eastern	10	Atlanta-Miami	1	
		10	Chicago-Atlanta-Jacksonville-Miami		1
		10, 40	Chicago-Atlanta-Tampa-Miami	1	
Oct. 1	National	31	New York-Jacksonville	2	
		31	Miami-Key West		1
		39	Jacksonville-New Orleans	1	
**	Braniff	15	Denver-Amarillo-Oklahoma City-Dallas	1	
**	Inland	35	Denver-Huron	1	
**	Eastern	40	Miami-Tallahassee-Memphis	1	
**	Northeast	27	Boston-Montreal	2	
**	National	31	Miami-Key West	1	
**	Eastern	5, 6	*New York-Boston*	6	
**	Northwest	3	Chicago-Minneapolis	1	
Oct. 1	National	31	Tampa-Miami	1	

c Exclusive cargo operation.
**Exclusive cargo eastbound only.*
***Authorized but not yet inaugurated.*

"OPEN FOR BUSINESS IN 2 HOURS"

Few major enterprises which change ownership can be completely set up ready for business under "new management" as rapidly as a captured airfield. With pride we read the news of each such exploit . . . knowing that parachutes invariably play an important role. We know, too, that each 'chute did its job well and faithfully because of the skilled precision needlecraft that went into its making. Soon, we hope, these same skills will be turned to the production of equally fine consumer goods, by STANPAR.

INVITATION

We invite apparel creators and those with other needlecraft production problems to write us regarding our facilities for producing and designing postwar consumer goods in our factories. Our production and engineering staffs are available for consultation.

BUY MORE WAR BONDS

Stanpar

STANDARD PARACHUTE CORPORATION SAN DIEGO, CALIFORNIA, U.S.A.

20-Man Advisory Group Named To Aid CAB in Studying Taxes

THE Civil Aeronautics Board last fortnight named a 20-man advisory committee to assist it in a study of multiple taxation of air carriers as outlined under a law signed by the President last July 3. Oswald Ryan, CAB member, heads the committee as chairman.

Committee members were selected from various activities related to the subject of taxation of air carriers. Each of them has extended experience and knowledge either in the administration of state or local taxation, in airline operations, in public finance, or in federal and states relations.

"The study is being made pursuant to a law of Congress approved by the President on July 3, 1944, which directs the Civil Aeronautics Board to undertake a study of the multiple taxation of air carriers and their employees and to recommend appropriate steps to eliminate any burdens on interstate commerce resulting from such multiple taxations," the CAB announcement said.

"The committee will meet from time to time in Washington to advise the Board on the conduct of the study and weigh recommendations for eliminating burdensome multiple taxation of air carriers or their employees."

The following constitute the committee:

Dixwell Pierce, Secretary, California State Board of Equalization; Roy Blakey, Prof. of Economics, University of Minnesota, and President, National Association of Tax Administrators; Roy Blough, Treasury Tax Research, Treasury Department, Washington; J. C. Collins, Vice President, Mid-Continent Airlines; John C. Cooper, Vice President, Pan American Airways; Amos Culbert, Vice President, American Airlines; Harold Groves, Chairman, Department of Economics, University of Wisconsin; J. Weldon Jones, Assistant Director in Charge of the Fiscal Division, Bureau of the Budget, Washington; I. M. Labovitz, Alternate to J. Weldon Jones, Bureau of the Budget, Washington; R. G. Lochiel, Treasurer, Pennsylvania-Central Airlines; Edward Logan, Director of the Budget, State of Pennsylvania; James W. Martin, Professor of Economics and Director of the Bureau of Business Research, University of Kentucky; Joseph McGoldrick, Comptroller, City of New York; Louis Nims, Chairman, State Tax Commission, State of Michigan; Al Noonan, Executive Secretary, National Association of Assessing Officers; Carl Shoup, Professor of Economics, Columbia University; A. H. Stone, Chairman, State Tax Commission, State of Mississippi; George Watson, Executive Secretary, National Association of Assessing Officers; Ronald Welch, Bureau of Internal Revenue, formerly Director of Tax Studies, Board of Investigation and Research, Washington; David L. Behncke, President, Air Line Pilots Association.

PCA Operations Department Streamlined; Four Divisions

The Operations Department of Pennsylvania-Central Airlines has been streamlined and now consists of four main divisions: flight operations, ground operations, personnel, and medical. J. H. Carmichael, vice president, continues in overall charge with W. R. Manchester as operations manager and W. D. Markey as assistant to the operations manager.

Flight Operations is headed by J. A. Brooks as superintendent, with C. A. Lupole as his assistant. In this division C. W. Weiblen continues as System Chief Pilot with R. H. Taylor as Assistant Chief Pilot, Eastern Region; H. McClintock, Assistant Chief Pilot, Western Region; and G. A. Nowack, Assistant Chief Pilot, Southern Region. W. F. Kinnard continues as Supervisor of Flight Dispatch.

R. W. Hardesty is Superintendent of Ground Operations, with J. F. Roth as assistant superintendent. Supervisor of Station Operations is J. J. Scholze; W. D. Ord is Supervisor of Reservations and Ticketing, and C. G. Aschenbach is Supervisor of Operations Communications. W. D. Hedrick continues as Supervisor of Cabin Service and Supply, and Miss Katherine Hartman continues as Chief Hostess. J. H. Murphy and E. A. Clark are Regional Supervisors of Ground Operations, assisted by A. J. Viola and C. G. Reith, respectively.

The Personnel Division is headed by J. T. Rinker, who is aided by three Assistant Directors. Dr. H. L. Andrews is assistant in charge of personnel training; J. H. Baldridge is assistant in charge of employment and records; and F. P. Flint is assistant in charge of employe relations. The remaining division of the Operations Department, the Medical division, will continue to be headed by Dr. L. G. Lederer.

Quick-Reference Weather Board Developed by CAA

INCREASING air traffic which requires faster operation of air traffic control procedures has resulted in development by the Civil Aeronautics Administration of a new Visual Weather Indicator.

Experiments with the new indicator in the Washington Airway Traffic Control center, indicates that it speeds up the work of controllers, who, when the weather is bad and all traffic on the airways must be carefully shepherded, are working at top speed. The present weather sequences which are teletyped, are difficult to read, easy to misinterpret and are not written in sequence for quick, efficient reference. Further experimentation will be conducted, CAA officials say, to determine whether the indicator will be made standard equipment in every control center.

The indicator was developed at the suggestion of James E. Ryan of the Washington center. It consists of a box lenses, each bearing standard weather code symbols. One box is mounted above each section of the traffic control board. When the proper lenses are lighted up from inside the box, the current weather conditions at that station are immediately and easily legible. General conditions at the station are given by a trio of lights at the top of the box, indicating contact flying conditions with the letter C, instrument conditions with the letter N or closed conditions with the letter X.

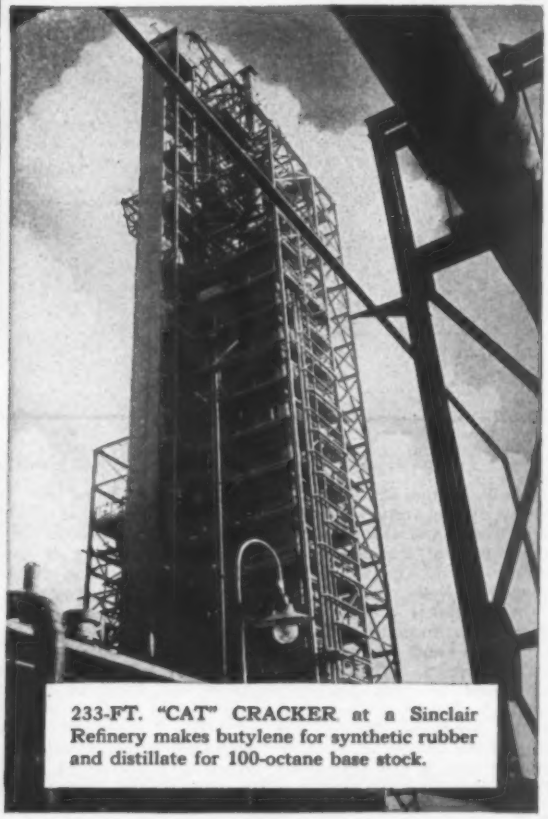
Indicator, mounted on top of flight progress boards, shows the current weather at all times through use of lights, which show through glass lenses cut out to resemble weather symbols.

To set these lights, the operator in the traffic center uses a rotary switch. Actually, they could be operated from the weather bureau offices even from a distance. In actual operation, there would be a box with similar lenses over the board of each station by which the operator could tell at a glance the local weather.

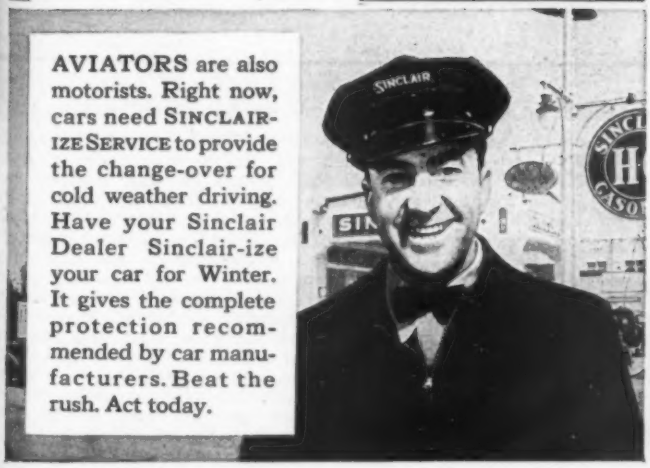
SINCLAIR 100-OCTANE fuels 3000 fighters daily

3000 FIGHTER SORTIES every day, protecting Yank bombers . . . maintaining air mastery . . . can be flown with the daily output of Sinclair 100-octane gasoline. Today, all of this 100-octane goes to fighting fronts. Tomorrow, Sinclair Aviation Gasoline will power the nation's commercial and civilian planes.

LABORATORY assistant testing 100-octane gasoline for anti-knock at one of Sinclair's 10 modern Refineries.

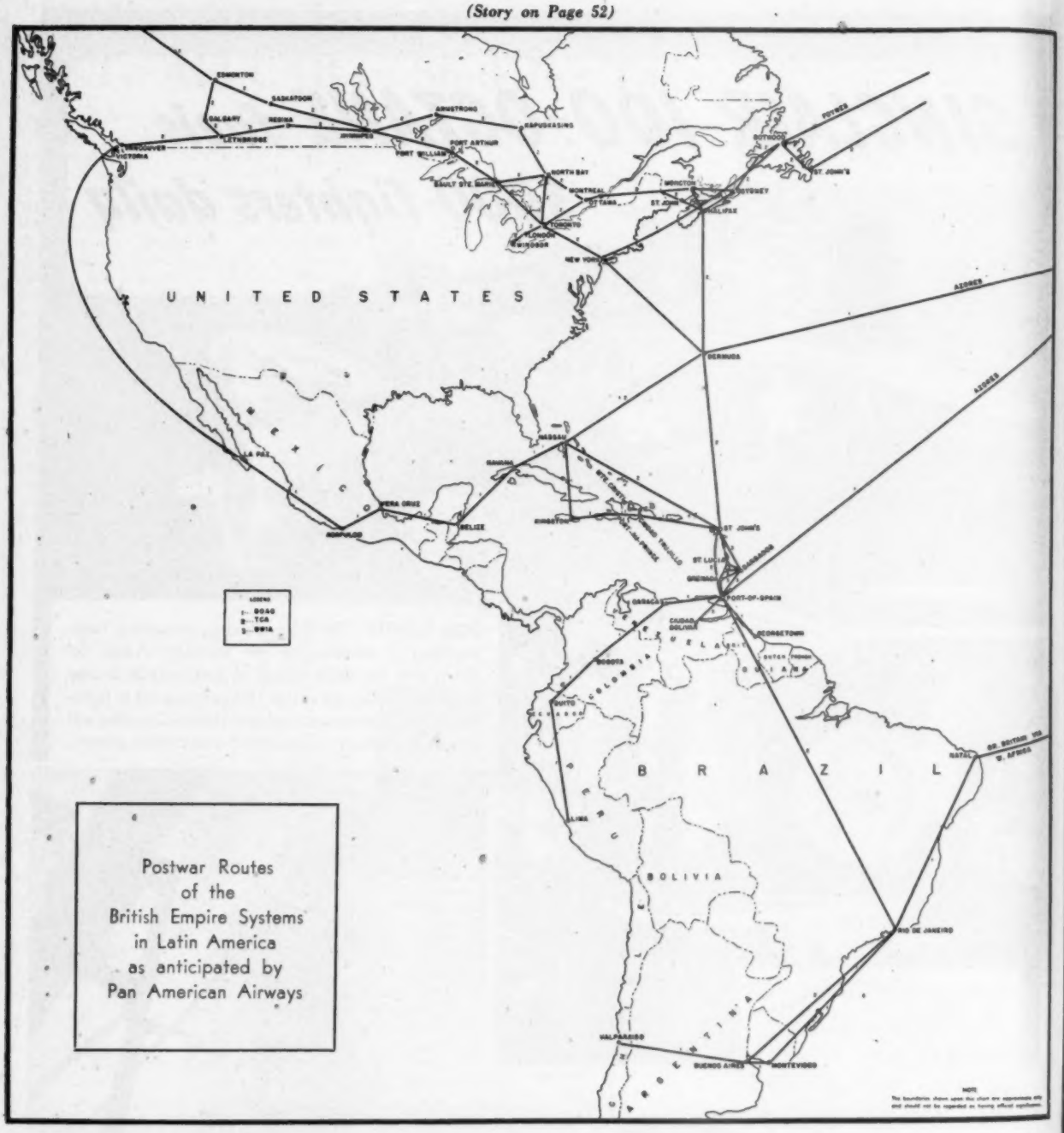


233-FT. "CAT" CRACKER at a Sinclair Refinery makes butylene for synthetic rubber and distillate for 100-octane base stock.



AVIATORS are also motorists. Right now, cars need SINCLAIR-IZE SERVICE to provide the change-over for cold weather driving. Have your Sinclair Dealer Sinclair-ize your car for Winter. It gives the complete protection recommended by car manufacturers. Beat the rush. Act today.

(Story on Page 52)



Trippe Given Award

Juan T. Trippe, President of Pan American Airways System, was presented with "The Americas Award" at the annual dinner of the Americas Foundation in New York Oct. 12. This honor is awarded each year to the American, who, in the judgment of the Foundation's directors, has done most during the year to promote and improve relations with Latin America. The award to Trippe was based on "his accomplishments in bringing closer together the people of all the Americas through the establishment of the greater inter-American aerial network which has effectively linked all of the Americas."

UAL Modification Plant Gets 'E'

United Air Lines' bomber modification center at Cheyenne, Wyo., is scheduled to receive the Army-Navy "E" Oct. 20. United's is the first airline modification center to receive the award.

La Guardia Field Express Up

Air express moved through La Guardia Field in August showed a rise of 30.2% over August, 1943. A total of 54,116 shipments were handled by the Air Express Division, Railway Express Agency, compared with 41,551 shipments during the same month a year ago.

Veterans' School Ready

The Embry-Riddle School of Aviation, which has trained thousands of Army and Navy youths for war, will train returning veterans from all parts of the United States for peace. The Miami school has signed a contract with the Veterans Administration and is ready to accommodate up to 500 veterans immediately in such technical courses as aircraft and engine mechanics. Preparations are being made to train thousands of additional men after Germany and Japan fall. The contract includes the training both of disabled veterans under the rehabilitation program and service men under the G. I. Bill of Rights.

HYDROMATICS *on Post War Airliners*

Marking an important step in the development of post-war air traffic, American Airlines, Pan American-Grace Airways and United Air Lines have ordered fleets of big, fast Douglas DC-4 and DC-6 transports. Dependable Hydromatic propellers are to be regular equipment on all these airliners.

HAMILTON STANDARD PROPELLERS

EAST HARTFORD, CONNECTICUT

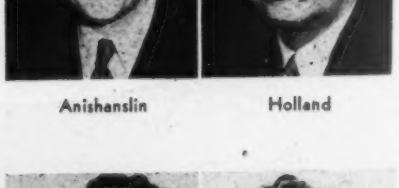
ONE OF THE FOUR DIVISIONS OF UNITED AIRCRAFT CORPORATION

Eddy Houriet

Airline Personnel

Anishanslin Holland

Forester Noble



Mutton Fitts

Eager Cline

Traffic

Margery Forester has been appointed counselaire in Western Air Lines' Long Beach traffic offices, replacing **Peggy Cox**, who has been transferred to the airline's Los Angeles headquarters.

Henry H. Fitts and **Vern R. Mutton** are new traffic representatives of Pennsylvania-Central Airlines, Fitts at Chattanooga and Mutton at Grand Rapids. Both men recently were honorably discharged from the armed services.

S. J. Roll, assistant to the vice president and general traffic manager of Pan American Airways, has been named PAA foreign trade counsellor, and has been replaced in his former position by **John E. Muhlfeld**, formerly general traffic manager for Pan American-Grace Airways in Lima, Peru.

Joseph D. Boylan has been named regional cargo traffic manager for American Airlines in New York. He was formerly a civilian employe of the U. S. Army Transport Corps.

Norman Anishanslin, DTM for Chicago and Southern Air Lines in Memphis, has been promoted to the position of revenue auditor for the company. **B. T. Cline**, former assistant general traffic manager has resigned to enter the automobile business in St. Louis.

Vern R. Mutton, until recently a navigator with the Air Transport Command, has joined Pennsylvania-Central Airlines as a traffic representative in Grand Rapids, Mich.

Richard A. Dick, general traffic manager for Western Air Lines, has been promoted from captain to major in the California Wing of the Civil Air Patrol.

Edward M. Benz, regional traffic manager of Northwest Airlines in Seattle for the past three years, has resigned to join Kelco Co., Los Angeles.

Dwight Howard Eddy has been appointed DTM for Braniff Airways in Oklahoma City.

Operations

C. Edouard Houriet, assistant to the operations superintendent at the La Guardia Field headquarters of Pan American Airways, has completed 15 years with PAA.

T. G. Noble, member of the plant engineering staff of Northwest Airlines, has been appointed NWA regional field engineer for the Twin Cities area and the company's Eastern region between Chicago and Billings, Mont.

Estes Furman

S. J. Miller, PCA safety engineer, has been named chief of plant maintenance of the airline.

Alvin Eager has been appointed operations manager of Otto Airlines, a division of Otto Aviation Corp.

Marguerite "Peggy" Kellerman has been named chief hostess of Continental Air Lines, replacing **Mildred "Tommie" Heck**, who has been granted leave of absence to attend Columbia University, New York.

Gordon A. O'Reilly has been named superintendent of communications of TWA, succeeding **Howard K. Morgan**, who recently was named director of engineering for the airline.

W. E. Lawrence, director of development for American Airlines, has been named chief engineer of American Export Airlines. He was for two years an aviation engineering specialist with the War Production Board.

Miscellaneous

H. W. Furman has been appointed general chairman of United Air Lines' Employes' Suggestion Conference.

Lt. Col. Murl Estes of the Army Air Forces, formerly chief pilot of the Eastern Division of PCA, has been assigned to Bolivia as the United States military air attache.

J. G. Holland has been appointed general attorney for Continental Air Lines and the Continental-Denver Modification Center.

F. G. Malbeuf has been appointed assistant director of public information for American Airlines, with headquarters in New York.

Leonard F. Bouman has been named U. S. representative for K.L.M. Royal Dutch Airlines and K.N.I.L.M. Royal Netherlands Indies' Airways with headquarters in New York

Maj. Clayton E. Joyce, United Air Lines pilot on military leave, has been appointed chief pilot of the India-China Wing, Air Transport Command. He has logged more than 10,000 flying hours—9,000 with commercial airlines and the remainder as a military flyer—in a flying career which started in 1929.

A LITTLE WOODEN BOX that's speeding aircraft progress

By JOHN B. KENNEDY

Famous news analyst tells how "Suggestions for Victory" from Bell Aircraft employees have saved thousands of dollars of the taxpayer's money and a comparable number of manhours

"IN every Bell Aircraft plant you'll see suggestion boxes. Into these boxes Bell Aircraft employees, who think while their skilled hands are at work, last year deposited 4200 ideas to improve plant operations and Bell Aircraft products. One third of these, after being cleared through Bell Aircraft's Patent Office, have been put to work. As a result thousands of dollars have been saved in the cost of building Bell airplanes and other war weapons. Other suggestions are helping to speed Victory by saving thousands of manhours.

"Take the case of a supervisor of Intra-Plant Traffic in one Bell Aircraft plant. His plan for simplifying the operation of the conveyor system, by which workers receive material and parts, eliminated 54,561 telephone calls per week—totaling a yearly saving of $39,845, to say nothing of time.

"Instead of a telephone operator notifying the station that supplies are on the way, when the conveyor passes a certain point, it lights an electric bulb. This signal notifies the worker to be on the lookout.

"This new system is one of many production methods suggested by Bell Aircraft employees that are now in use in other Allied Aircraft plants.

"Bell Aircraft workers are making every effort to speed the day of Victory. When that time comes, you can trust this same manufacturing skill and ingenuity to bring you many things to make for a better world at peace."

★ *Buy War Bonds and Speed Victory* ★

MEMBER AIRCRAFT WAR PRODUCTION COUNCIL...EAST COAST, INC.

BELL *Aircraft*

PACEMAKER OF AVIATION PROGRESS

NIAGARA FRONTIER DIVISION
Buffalo and Niagara Falls, N. Y.
Airacobra (P.39) and Kingcobra (P.63)—Fighters
Airacomet—America's First Jet Propelled Plane
The Bell Helicopter

ORDNANCE DIVISION
Burlington, Vt.
Flexible Gun Mounts and other ordnance materials

GEORGIA DIVISION
Marietta, Ga.
B-29 Boeing Superfortress

© Bell Aircraft Corporation

All American Pick-up Method Used To Lift Humans From Behind Lines

ANNOUNCEMENT of the use of All American Aviation methods in picking up, by airplane, patriots behind the German lines was made recently in the *London Star*. Through this method, the Allies have been able to figuratively retrieve from under the very "nose" of the enemy, some of the nationals of conquered countries, fly them to London and there receive from them valuable information regarding enemy plans and operations.

Halsey R. Bazley, president of All American Aviation, Inc., the company which developed the airmail pickup system which now operates seven states and serves 118 communities, commented that this was the first word that he had had that the pickup device was being used with reference to human beings. He said military versions of All American's Air Pickup system had been used extensively in picking up troop and cargo gliders in both France and Burma.

"News that it is being used to pickup human beings is extremely interesting. We know it can be done," Bazley stated.

The story in the *London Star* on the man pickup was printed beneath the caption: "Under the Germans' Noses." It read:

"One of the fantastic methods by which the Allies get news of happenings inside German-occupied Europe was described by Hans Astelius in a broadcast from Stockholm. This, he says, is how it is done:

"'At dawn an Allied aircraft appears over an occupied country, flies very low over a certain lonely place, drops a small parcel by parachute, which is picked up by local patriots. In the packet is a harness with instructions how to use it.

"'At a given hour, perhaps a day or two later, one of the patriots puts on the harness lies down flat on the ground and waits. An aircraft appears, flying very low, goes down still lower, but not to land—that is not necessary. The harness is hooked on to a tow-rope, and in a few seconds the man has been hauled aboard the aircraft.

"'The whole business is completely free of risk, and the strain is less than a parachute jump. A few hours later the man is in London and passes on information on what is happening in the occupied country.

"'The Germans know about this, but are powerless to prevent it.'"

South Pacific and Orient Applications Consolidated

The applications of a dozen presently certificated and prospective air carriers seeking routes in the South Pacific and Orient have been consolidated by the CAB for hearing in the Pacific Case (Docket 547 et al.). Portions of the applications of Prairie Airways (Docket 1347) and U. N. Airships, Inc. (Docket 1306) have been consolidated for the proceeding along with these in their entirety (Docket numbers appear in parenthesis):

American President Lines (1581), Chicago and Southern Air Lines (880), Hawaiian Airlines (1491), Inland Airlines (902), Northwest Airlines (547, 861, 862, 985), Pan American Airways (1582), Pennsylvania-Central Airlines (1508), TWA (1060), United Air Lines (1406), Western Air Lines (631, 1048), Woodley Airways (1589).

ATA Replies to Criticism Of ODT on Advertising

The Air Transport Association has replied to recent criticism by the Office of Defense Transportation relating to alleged unnecessary airline advertising while the airlines are purportedly carrying capacity loads.

In a letter of J. M. Johnson, ODT director, E. S. Gorrell, ATA president, said the matter had been fully discussed by the joint advertising committee of the ATA and "we are sure in the future the members of our association will not go beyond anything that is right and proper in war-time advertising." Johnson had written to the Assistant Secretary of War for Air with reference to the advertising.

Gorrell said in his letter that the situation with respect to travel by air was quite different than that of other means "since the priorities system assures adequate space for essential travel." He pointed out that "as planes have been returned to the airlines, we find that the proportion of priority traffic to the total has decreased and that in many sections of the country space is becoming available for war-time traffic of a nature that is important and necessary to the war effort but does not qualify for military priority."

"There is no desire on the part of the airlines to create more traffic at this time, but it does seem in keeping with the practice of other carriers to inform the public of what service is available," the letter stated. Gorrell enclosed with the letter several examples of railroad advertising "which are subject to precisely the same criticism as were the airline advertisements to which our attention was invited."

Recent CAB Orders Affecting Air Carriers

3150—Consolidation of applications in North Atlantic case (Docket 855 et al).

3152—Rescinding temporary suspension of service on Branif's Route 15 between Amarillo and Oklahoma City.

3153—Dismissal of applications of Aerovias Nacionales Puerto Rico, Andrew J. Burke, Gordons North South Airlines, and New York and Bermudian Air Line in Latin American proceeding. (Docket 525 et al).

3156—Dismissal of application of Florida Motor Lines Corp. (Docket 1116).

3157—Approving travel agent agreements filed by Air Traffic Conference of America.

3158—Dismissal of applications of Oregon Airways. (Dockets 953, 1370).

3159—Dismissing application of Oregon Motor Stages. (Dockets 1178, 1413).

3160—Permitting Eastern Air Lines to inaugurate service to Boston.

3166—Consolidation of applications in North Central case. (Docket 415 et al).

3167—Approving Pan American Airways acquisition of China National Aviation Corp.

3168—Permitting National Air Lines to inaugurate service to New York.

3169—Denying Pan American Airways permission to serve Anchorage, Alaska.

3174—Consolidation of applications in South Atlantic Route case. (Docket 1171 et al).

3176—Dismissing application of Ryan School of Aeronautics. (Docket 1368).

3178—Dismissing application of Andrew J. Burke. (Docket 384).

3179—Dismissing application of Western States Aviation Co. (Docket 1509).

Mobile Tower Moved

The CAA's mobile traffic control tower, which has been utilized by the Army at Winslow, Ariz., for the past several months, has been transferred to Bismark, N. D., for further use by the Army.

CAA Legal Office Releases Annual Report

Ninety-eight applicants of foreign birth or descent, were given pilot's licenses in the United States during fiscal 1944, according to the annual report of the Civil Aeronautics Administration Legal Office.

Applicants from the Axis countries, Germany, Italy and Japan, were most numerous. After each had been investigated by the Provost Marshal General, 18 of Japanese origin, 42 of German, and 18 of Italian, were given certificates. Nine applicants were of Austria-Hungary origin and four of Rumanian. There was one each from Bulgaria, Colombia, Czechoslovakia, Finland, France, Poland and Yugoslavia. Twelve applications were denied.

Aside from the smaller number of violations resulting principally from war's restrictions on private flying, the report followed the usual pattern. There were 1,024 cases of violation, including pilots, plane owners, aircraft companies, air agencies and others, and of these, the commercial pilots were responsible for the largest number, 287. Student pilots were next with 240 and private pilots with 195. Airline pilots, as usual, were well-behaved, only 18 of them requiring official attention.

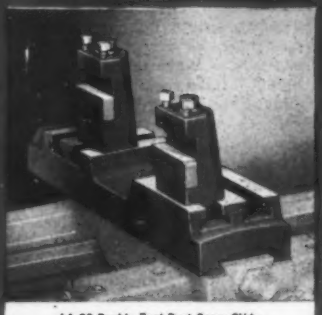
Most of the action taken by the CAA consisted of reprimands, of which there were 275. The Administration also assessed civil penalties in 144 cases, 85 licenses were revoked, and 118 suspended by the Civil Aeronautics Board on complaints filed by the Administrator.

A total of $7,065 was collected in civil penalties, of which commercial pilots paid the most, $2,610. Airlines and aircraft manufacturing companies were fined $650 and $500, respectively.

Violations of the Civil Air Regulations were involved in 297 accidents, of which 84 resulted in fatalities. No record was kept of violations of the Civil Air Regulations by military fliers, whose violations are observed and reported to military authorities.

Emergency regulations resulting from the war condition accounted for 131 violations, such as taking off from or landing on undesignated landing areas, taking off without proper official clearance, and deviating from the terms of a clearance.

A *Logan* SCREW CUTTING LATHE BECOMES A TURRET LATHE WITH THIS ASSEMBLY



LA-29 Double Tool Post Cross Slide

LA-25 Double Tool Post Cross Slide

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For use in connection with the Turret Assembly. No. LA-29 is interchangeable with your present Compound Rest. No. LA-25 fits on bed of your present lathe.

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'Airport Lighting Equipment Vital'

Work of Industry Advisory Committee on Aviation Ground Lighting Equipment Discussed; 4 Categories Listed

By E. J. FOLEY

OF SINGULAR significance to the nation's postwar aviation program are the technical developments and practical advances in the field of airport ground lighting equipment, being made under the stimulus of the war effort. Nearly buried in the flood of more "romantic" aviation achievements, these vital projects deserve industry attention.

Foley

The Industry Advisory Committee on Aviation Ground Lignting Equipment is the special wartime group of industry and government representatives created to provide a source of advice and information for the War Production Board. In its considerations, the Committee includes the following equipment types: "homing" devices; hazard marking lights; wind direction and landing direction indicators.

The "homing" device category covers the common airport beacons: the 36 inch rotating unit in use by the CAA and the 24 inch unit which has come into use by the Army and Navy as well as the CAA. Present practice requires two varieties of the 24 inch: the alternate green and clear flash used on civil fields and the single-end double-flash clear beacon used to distinguish military airports. The recent CAA use of the smaller beacon is believed to be temporary since pilots have encountered difficulty in seeing it while approaching an airport in bad weather.

Drum-Type Being Tested

Several special beacon types are the subject of experimentation. Under test at Indianapolis is a 24 inch drum-type rotating unit, with a 3000 watt lamp, set 1000 feet from the end of the runway.

Wright Field is exploring the possibilities of the *condenser discharge beacon* which has an extremely high intensity, short duration flash. Operating on either AC or DC, the unit employs the Edgerton lamp, a flash tube operated at high voltage and very high current. The beacon's possibilities appear limited by reason of the very short flash, but the fact that the entire unit except external power supply weighs 175 pounds packed suggests its use as a portable installation.

The use of the *code beacon* has been more or less limited to obstruction marking but there is thought being given to establishing it as a definitive aid for an airport in locations where several airports are in close proximity.

Although there are no CAA plans to install the *oscillating beacon*, the AAF has used this type as a military field designator. The rate of oscillation is generally forty cycles per minutes producing eighty flashes per minute and in spite of a candlepower lower than the common rotating beacon, the oscillating type is said to be more conspicuous. Military operating personnel, encountering fog conditions are becoming aware of the usefulness of this type, according to the AAF.

In the field of hazard marking lights, the general policies dictating their use is being reviewed with an eye to a change. The use of fewer obstruction lights on fixed hazards *on the airport* together with a slight increase in hazard lighting in surrounding areas is the expected change. Less experienced pilots or strangers, on approaching a field have reported confusion and distraction as a result of excessive numbers of red lights in the immediate vicinity of the important runway marker lights.

Flood-Lighting Frowned Upon

Other suggestions, pertinent to obstruction lighting, are on the docket. The occasional practice of flood-lighting smokestacks and similar structures is being frowned upon by reason of the fact that in low visibility conditions the flood produces only a haze whereas the generally approved red light at the top provides clear definition. Similarly, the installation of obstruction lights in even parallel rows should be avoided to prevent confusion between these and the standard red high-intensity approach light lanes. It is pertinent here to note that some officials are thinking about changing the obstruction light spacing on extended obstructions to 150 feet anywhere within two miles of the edge of the landing area—present practice calls for 150 feet within 1000 feet of the landing area and 300 feet spacing beyond.

It is proposed that AAF, Bureau of Aeronautics and CAA will formulate a policy for the zoning of areas around airports and for the specific hazard markings in such zones.

Four main types of wind direction and landing direction indicators are current. The wind "T," normally free swinging is the common horizontal, lighted unit. Its use is rapidly declining.

The *airport wind cone* is the externally lighted unit using four 200 watt lamps. Frequent field failures of the original of this model have necessitated a design change strengthening the upright members which were inadequate support for the cone.

The *airway wind cone* is simply the little brother of the airport unit. It is smaller and internally lighted by a 75 to 150 watt lamp. It is particularly well suited for use on intermediate fields where electric power may be at a premium. Since relatively infrequent landings are the order of the day at these fields, the device has proved generally adequate.

The largest gadget for the exposition of wind direction is the wind tetrahedron. It is the unit which is replacing the wind "T" on those fields which have the latest types of lighting equipment. As the name implies, it is tetrahedral in shape, 35 feet high and 15 on each side of the base, which is more or less in the vertical plane when the unit is in use. Thirty-five ten watt lamps provide the illumination.

The simple inclusion of a control mechanism in the base converts the tetrahedron to a dual utility unit: wind direction indicator or landing direction indicator. At all those airports at which the CAA operates the control tower, the double duty tetrahedron is being installed. Although general reaction from the fields has been extremely favorable, excessive use of the control mechanism, specifically, frequent starting, stopping of it and its use in high winds, has resulted in one breakdown. Proper operating techniques should remedy most of this difficulty but strengthening of affected parts may be required.

Navy training fields have been using a *course indicator* as a method of traffic control where large numbers of planes are operating. Its development was prompted by the need for a better method of directing the pilot to the proper landing runway. Briefly, the assembly consists of a series of beacons—four 24 inch clear units mounted on a turntable, one 3000 watt 24 inch green beacon also mounted on the turntable and one 3000 watt 24 inch red beacon mounted over all. This combination of beacons provides 1 to 8 signals and the approaches on the field are so numbered. The control tower indicates the proper course by signaling the corresponding number of flashes.

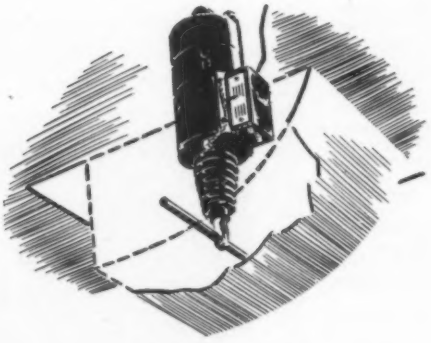
An Important Phase Omitted

Our report of the devolopments in this field of ground lighting has had to omit the important phase of approach, landing and takeoff aids in which there is considerable development and standardization activity. Glide angle indicators, special "snow country" marker lights and taxiway light modifications are only a few of ramifications that space denies. For those who feel the flying boat is dead, we can state that the activity of the Industry Advisory Committee relative to flying boat accommodations is extensive.

This treatise is somewhat of a departure from our practice. It carries more of the reportorial and less of the debatable. It is our opinion that there are merits to both sides. We want to know what both of you readers think about this. We shall pattern our future actions in these columns on your wishes, if you'll make them known. Do you want the balance of the data on ground lighting?

Wartime Experience for Finer Peacetime Flying

TEMPERATURE CONTROL. From today's lessons, AiResearch has engineered lighter-weight, altitude-raising intercoolers... improved aftercoolers ... and non-congealing oil coolers. These will help reduce postwar operating costs, make air transport more comfortable, safer and swifter.



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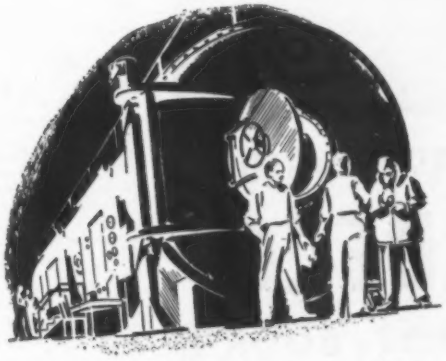

PRESSURE CONTROL. From this giant AiResearch "Stratolab" will come the automatic air control devices to successfully pressurize airliner cabins ... to provide AiResearch "comfort-protection" that will make high altitude operation feasible and profitable.

These are but a few examples of how AiResearch's specialized experience will benefit peacetime flying. Perhaps *you* can profit by this warborn experience.

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Equipment News

Electric Actuators

Introduction of an entirely new line of electric actuators has been announced by Pacific Division, Bendix Aviation Corp., North Hollywood. First units in the line are to be known as Geneva-loc positioning actuators. The company also is manufacturing a specialized actuator for operation of dive flaps to meet the specifications of an air frame manufacturer. The new Geneva-loc actuator offers extremely accurate control within 1° of any series of operations up to eight positions with each position positively locked against movement. As the name implies, these new actu-

ators incorporate a Geneva movement operated by a high speed motor. Positioning by limit switches has been completely eliminated. Five outstanding advantages result:

1. Positive control of output shaft movement which automatically locks at all stops and which is independent of motor overtravel and temperature variations.
2. No clutches, torque limitors, brakes or adjustable limit switches—eliminating major causes of trouble.
3. Motor comes up to speed under no load, then engages cam with varying ratio which develops maximum torque at breakaway positions. Thus cutout switches always operate when motor is under no load permitting maximum switch life.
4. Design permits two-to-eight positions.
5. Entire unit can be disassembled and reassembled, or interchanged quickly in the field. There are no limit switches, brakes, etc., to be adjusted.

Rivet Separator

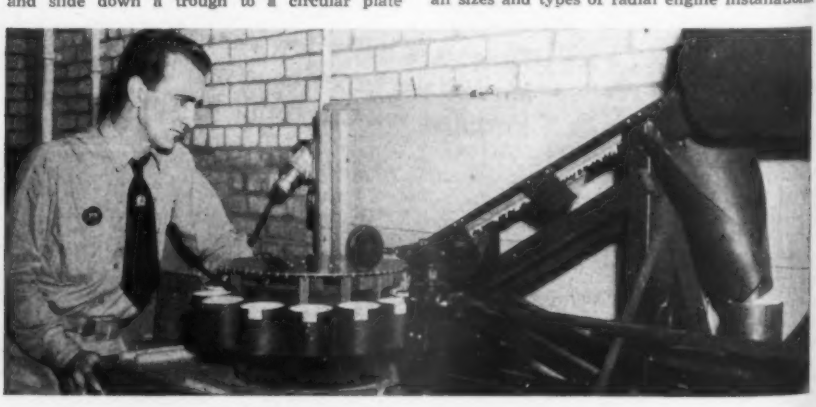
Edward J. Mayes (below) of Pan American Airways watches the operation of a machine he designed and developed which can separate 17,280 rivets an hour—a job heretofore performed by hand. He estimates that his machine in two hours can segregate, according to length, all rivets of one-eight inch diameter that accummulate in a week in Pan American's maintenance department at La Guardia Field. The rivets are dumped into a hopper and slide down a trough to a circular plate which revolves slowly. There they are picked off one at a time by notches in the plate and dropped by trippers of appropriate length into buckets situated at intervals beneath the plate.

Mayes is assistant chief of the metal shop at Pan American's transatlantic Clipper terminal.

Engine Preheater

An aircraft engine preheater designed to hang conveniently on the propeller of a radial engine, and small enough to be easily handled by one man (weight about 45 pounds) is the latest model announced by Hunter and Company, Cleveland, makers of direct-gasoline-fire heaters. The new unit, which measures 18½" by 5½" by 13½", is rated at 40,000 Btu/hr. It comes equipped with an air-snug canvas hood to enclose the engine and short connecting ducts for hot and return air. In recirculating air within the enclosure, which includes all engine parts, the Hunter heater employs a new and improved principle, according to the manufacturer. Advantages claimed are concentration of heater output into useful application of heat to the engine parts. Because of the extremely short travel, a minimum of heat is lost through ducts and connections. One heater is applied to each engine, and because of the compactness and ease of handling, greater flexibility of use is claimed. The same heater can be used for preheating aircraft cabins, for heating small offices or shops, or for throwing a flow of warmed air around a mechanic working in an unheated area. Components are a simple

welded steel burner with "Sealed-in-Steel" flame; a small blower which drives the heated air and also furnishes forced draft for combustion; a built-in fuel tank, and controls centered on a small panel at one end of the heater. Ducts and hoods are available to fit all sizes and types of radial engine installations.



FIBERGLAS* XM-PF
Aircraft Insulation

Only by *seeing, feeling, weighing* and *flexing* this new insulation can you realize how radically different it is from other insulations; also why every ounce available has been going into U. S. Military Aircraft.

Fiberglas XM-PF Insulation is made up of inert, inorganic material —glass in the form of very fine fibers bonded into a flexible mat form. It is easy to handle and fabricate. It requires no stitching or felting to maintain its form and shape, even under extreme vibration. And it weighs as little as *one pound* per cubic foot, while providing an optimum of insulating effect.

This new material has a merit factor of over 80 as *acoustical* insulation when properly installed. This, combined with its light weight and durability has made it ideal for the acoustical treatment of pilots', radio operators' and navigators' compartments in aircraft.

Its *thermal* uses in aviation include the insulation of hot-air ducts and fittings on aircraft, also the insulation of cargo and troop transport compartments. Being made of glass, the fibers will not rot or burn. Equally important, this insulation absorbs a negligible percentage of moisture under extremely humid conditions.

If you are not already familiar with Fiberglas XM-PF Aircraft Insulation, it will pay you to investigate its many advantages. Why not get in touch with the branch office nearest you? Or you can write to *Owens-Corning Fiberglas Corporation, 1894 Nicholas Building, Toledo 1, Ohio. In Canada: Fiberglas Canada Ltd., Oshawa, Ontario.*

OTHER AIRCRAFT USES OF FIBERGLAS

AIRCRAFT BLANKETS

Another type of Fiberglas thermal insulation, these fireproof blankets (known as Design No. 3) are made of Fiberglas insulating wool, Type N, faced with Fiberglas cloth and stitched with glass thread. Available in 1½ lb. and 3 lb. densities, they are extensively used to insulate gasoline heater exhausts, heat exchanger ducts, other high-temperature pipes, etc.

FIBERGLAS COATED FABRICS

The use of Fiberglas cloths as base fabrics for coating with natural or synthetic rubbers, vinyl compounds and other coating materials, provides a finished material having new and unusual qualities—great dimensional stability and strength under the most severe conditions of humidity, temperature and hard usage in combat. Widely used in the fabrication of gun bore sight screens, insulation covering, flexible connections, bunks, fuel cells, distillate tanks, many other items.

FIBERGLAS-REINFORCED PLASTICS

Made by combining certain low-pressure resins with Fiberglas—glass in the form of fine fibers—these materials provide great strength with light weight; exceptional ability to absorb shock; dimensional stability under moisture changes. These and other properties of this amazing new structural material are described in a booklet of reprints of articles which appeared recently in "Modern Plastics". Write for your copy.

TAPES

Another all-glass product—woven from Fiberglas yarns. While extensively used for insulating motors, generators and other electrical equipment, many other applications have been found for these durable, incombustible tapes in aviation—such as covering of thermal insulations on hot air ducts, ties for removable insulating pads, etc.

FIBERGLAS ..A BASIC MATERIAL

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Mechanized Loading Unit Used by American Airlines Made Completely Portable

American Airlines has put into operation a completely portable automotive mechanized unit for loading and unloading airfrieght at La Guardia Field.

Adapted to a gasoline-powered tractor, a conveyor belt keeps a continuous stream of baggage, express and mail moving from truck to plane as fast as cargo handlers inside the plane can stow it away. It can be adjusted to the height of the forward cabin of a DC-3 or to a postwar DC-4, an indicator on the side showing when it has been elevated to the necessary height. Both operating and elevating mechanism are hydraulically operated.

At the lower end of the conveyor belt is a platform to receive cargo coming down the conveyor, from which it may be placed with little effort either on the low-level panel trucks on which passengers' baggage is carried or on the regular mail and express delivery trucks. The platform and belt are marked to indicate the width of the door of a DC-3 but are wide enough for the DC-4's which have recently been ordered by American.

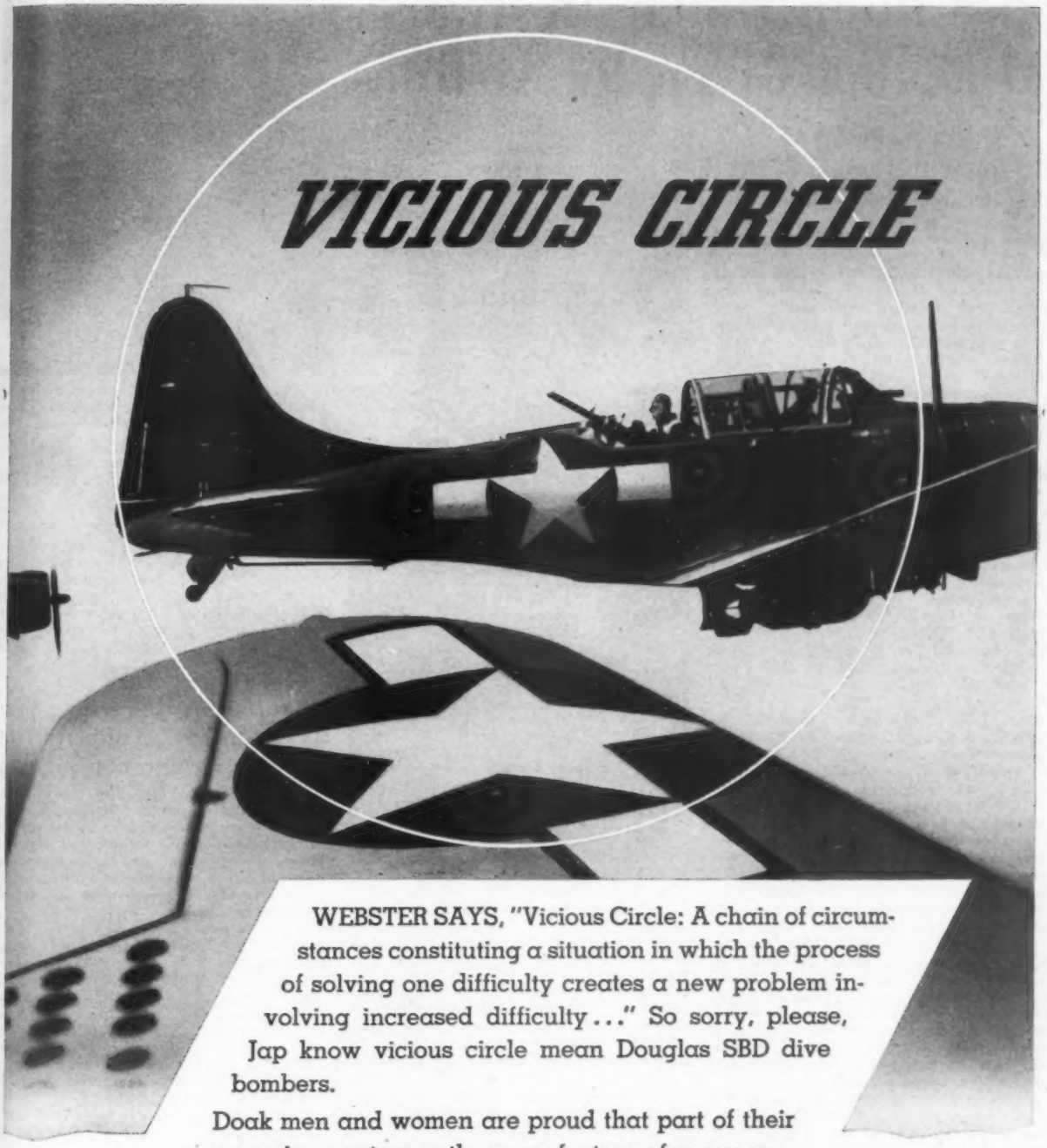
The conveyor belt itself consists of a series of slightly spaced slats with a canvas cover rippled on to prevent skidding. Sudden stoppage or reversal of the belt failed to dislodge or upset packages and baggage in the trial tests. The speed of the belt may be altered as necessary to permit proper stowage.

6,000 Worker Suggestions Gain Recognition by WPB

The War Production Board has awarded more than 6,000 commendations, honorable mentions, certificates and citations to civilian war workers for production step-up ideas, T. K. Quinn, director-general of the War Production Drive, announces.

Among the hundreds of widely used worker suggestions were a new testing method for bomb releases, developed at Glenn L. Martin Co., Baltimore; a shatterproof stainless steel oxygen cylinder for high altitude flying, developed at Firestone Tire and Rubber Co., Akron, O.; a device for loosening airplane tire beads, eliminating excessive damage to the tires, developed at Firestone; a silk-screening process of applying letters and figures to the paint finish of aircraft instrument panels, developed at Douglas Aircraft, Inc., Santa Monica, Calif.; an ice-grip tire design for military airplanes which preserves non-skid features of the tire for life, developed at Goodyear Tire & Rubber Co., Akron, O.

The following aircraft companies currently are among the leaders in the number of national WPB awards to workers through their Labor-Management Production Committees: Glenn L. Martin Co., Baltimore, Md., 43 honorable mentions; Northrop Aircraft, Inc., Hawthorne, Calif., 1 citation, 8 certificates and 33 honorable mentions; Curtiss-Wright Corp., St. Louis, Mo., 8 certificates, 33 honorable mentions; Douglas Aircraft Co., Santa Monica, Calif., 4 certificates, 60 honorable mentions.



WEBSTER SAYS, "Vicious Circle: A chain of circumstances constituting a situation in which the process of solving one difficulty creates a new problem involving increased difficulty..." So sorry, please, Jap know vicious circle mean Douglas SBD dive bombers.

Doak men and women are proud that part of their war assignments was the manufacture of many assemblies for this great Navy plane. When we of Doak can turn away from the vicious circle of war, our skills will be applied to products that will make your *"Family Circle"* a happier one.

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WORKING AROUND THE CLOCK FOR A BRAVE NEW WORLD

INSURE YOUR FUTURE—
INVEST IN WAR BONDS

90 Million Dollar Postwar Backlog Given by Airlines

EAL, PCA, and NAL Sign With Douglas and Curtiss-Wright

THE nation's airlines last week had given aircraft manufacturers a backlog of at least $90,000,000 worth of transport plane orders, actually on the books for postwar delivery, and plans were shaping up for numerous smaller orders which will add materially to this total.

Latest additions on the order books were:

Eastern Air Lines—contracts totaling $25,000,000 for Curtiss CW120 Commando transports and Douglas DC-4s.

Pennsylvania Central Airlines—contract with Douglas Aircraft Co. for 15 DC-4s totaling some $10,000,000.

National Airlines—contract with Curtiss-Wright for 16 CW20s at a cost of some $5,000,000.

During the previous fortnight, three airliners had signed contracts with Douglas Aircraft Co. for a total of 93 transports—American Airlines ordering 25 DC-4s and 30 DC-6s; United Air Lines ordering 15 DC-4s and 20 DC-6s; and Pan American-Grace Airways ordering three DC-6s. United also announced plans to sign contracts for an additional 15 DC-6s.

Capt. E. V. Rickenbacker, in announcing plans for the $25,000,000 expansion of Eastern's fleet, said Eastern hopes to begin operation of the CW-20s by the fall of 1945, war conditions permitting, and the DC-4s as soon thereafter as possible. He said the new equipment would make it possible to multiply plane mileage five times in a three-year period of Eastern's proposed domestic and international expansion program. This, he said, constitutes approximately one-half of an over-all five-year expansion plan.

In announcing PCA's order for 15 DC-4s, President C. Bedell Monro emphasized that point-to-point travel, flights between cities hundreds of miles rather than long distances apart, would consume the greater part of the coming travel by air, and that the DC-4 is considered a particularly satisfactory plane for the type of routes flown by PCA.

Monro said this order constituted PCA's initial requirements for postwar expansion of routes and service. Other fleet expansions are anticipated, he said, as postwar plans are crystallized.

G. T. Baker, president of National Airlines, said that the first of the 16 CW-20s ordered by his line will be received in the summer of 1945. The NAL new equipment program, he said, includes both large twin-engine transports for low cost mass transportation and deluxe four-engine airliners carrying 60 and more passengers with a speed in excess of 300 mph.

Announcement of the orders brought the first public revelations regarding Curtiss-Wrights postwar transport, the CW20.

Originally designed as a commercial air transport, the CW20 Commando was adapted to military duty as the Army C-46 and has undergone extensive testing in military operation. It is the largest twin-engine transport yet made.

The CW20 was developed by Curtiss-Wright in cooperation with airline engineers to meet a definite demand for larger payload with greater reliability and reduced operating costs in the 200-700 mile range, which accounts for over 80% of the total over-all commercial air travel in the U. S., according to Curtiss-Wright officials.

It will be powered by 18-cylinder Wright Cyclone engines—the same engines which power the Army Lockheed C-69 Constellation, the Martin Mars Flying Boat and other large aircraft. It will be an "all Curtiss-Wright" product, including engine, propellers and hulls.

Other airlines are expected to announce their equipment requirements in the near future. However, a number of them are awaiting developments in connection with new route applications before going on record regarding their needs.

E. V. Rickenbacker, left, president of EAL, and G. W. Vaughan, Curtiss-Wright president, after signing contract.

T. E. Braniff, president of Braniff Airways, Inc., recently stated that purchase of new planes depends entirely on action taken by the Civil Aeronautics Board on the company's various route applications.

However, Braniff is seeking to buy several of the larger Army cargo planes when they become surplus "if we can get them at a decent price," Braniff said. He pointed out that each plane of these types is capable of earning from $2,000 to $2,500 a day for an airline and hence "we can afford to pay more than their intrinsic worth—but not too much more because it costs from $25,000 to $45,000 to convert them for civilian use." When acquired, these planes will be put into cargo service on Braniff routes, he said.

The announced aircraft orders served to send aircraft stocks up on the New York market and in general have heightened interest in the aircraft field.

Left to right—Donald Douglas, president of Douglas Aircraft; J. H. Carmichael, vice president of PCA; C. Bedell Monro, PCA president.

Government Has Strong Price Lever to Use Against Plants Not Meeting Recommendations

Action of the Army and Navy in invoking for the first time drastic repricing powers against a small manufacturer of aircraft components served last fortnight as a reminder that the Government has a strong price lever to use against manufacturers who do not meet its recommendations.

The order was issued by the Army and Navy jointly against the Lord Manufacturing Co. of Erie, Pa., which produces a variety of rubber engine and instrument mounts for aircraft. Action was taken under Title VIII of the Revenue Act of 1943 which gives power to fix "fair and reasonable prices" on articles required by the services.

A joint announcement said that the Lord company, beginning in 1942, had refused to renegotiate profits and agree to proposals made by the AAF and the Price Adjustment Board.

Curtiss Commando

Delco Radio Products *Mean Dependability*

All over the world Delco Radio products are in useful service. They prove daily that the name Delco Radio means dependability . . . dependable designs developed with care and imagination; dependable products built with craftsmanship and skill. In radio and electronic equipment, the name Delco Radio stands for engineering vision—manufacturing precision.

MAKE YOUR DOLLARS FIGHT—BUY MORE WAR BONDS

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DIVISION OF
GENERAL MOTORS

Military Aircraft Production Up to Schedule; 'Fine Showing'

WITH MILITARY aircraft production virtually up to schedule for the first three quarters of the year, plane manufacturers were urged last fortnight to push output to a maximum for the remainder of the year.

September production, according to War Production Board figures, represented 98% of production which was praised by WPB as "a fine showing" for a work-day month of 26 days, including the Labor Day weekend.

Secretary of the Navy James Forrestal, however, struck a note of urgency last week by urging that aircraft manufacturers turn out at least 8% more planes for the Navy during the final quarter.

September's production for the aircraft industry totaled 7,598 planes. In terms of airframe weight, this was 92,700,000 pounds, including spares, or about 1,200,000 less than was produced in August, a 27-work-day month. August output was 8,274 planes and July output was 8,000.

WPB reported that during August almost all companies met their programs. Only a few plants, because of special difficulties, missed their schedules.

Current production emphasis is on the long-range superbomber type—B-29s and B-32s. September production in this category was the greatest yet in a single month, although very slightly under schedule. Standard four-engine bombers of the Fortress and Liberator types were on schedule, but generally speaking the remainder of the tactical program, including fighters and medium bombers, was slightly under schedule.

WPB pointed out that some individual companies which previously had difficulty in "getting started," had made good records during September and now appear to be definitely "on the beam."

The Office of War Information, in a special survey last fortnight, reported there is little evidence of production lags in the aircraft field attributable to manpower difficulties.

Total employment in 38 plants declined nearly 13,000 or 1.8% during July, the last month for which complete figures were available. However, employment in these plants is scheduled to decline at least 41,000 by the end of the year, OWI said.

A few plants which will require small employment increases during the next two or three months, such as Curtiss Wright in Columbus and the Boeing plants in Seattle and Renton, are encountering some difficulty in meeting their employment schedules because of local labor shortages. Inter-regional recruitment is expected to meet the need for additional workers.

Veteran Tail

The tail of a Martin B-26 Marauder now in action with the Ninth Army Air Force in Europe has completed more missions than the nose of the same plane. The freakish craft was produced from two damaged Marauders which had been consigned to the scrap heap. The nose of one and the tail of the other were salvaged and joined. The tail was veteran of 57 missions over enemy territory; the nose had completed 51 missions.

Four Southern California Companies Get Permission To Make Civilian Products

Four Southern California aircraft parts firms have been given permission to start production of civilian goods under the new "spot' authorization" plan for reconversion, Louis M. Dreves, War Production Board deputy regional director, announced Oct. 3 in Los Angeles.

United Airco Assembly, Long Beach, will make lawn mowers; Kinney Aluminum Co., Santa Barbara, aluminum cooking utensils; Poulsen & Nardon, Inc., Los Angeles, cafeteria food trays for in-plant use; Century Metalcraft Corp., Los Angeles, aluminum cooking utensils.

Manufacturing Personnel

Klotz

Bell

Wall

Mooberry

O'Connell

Kucher

James K. Grindle heads the new Chicago office of Brooks Equipment Corp., New York City, manufacturers and designers of shaft joints, accessories, and complete assemblies for hand-operated remote controls used in aviation.

David A. Thomas, formerly general manager in charge of Canadian sales for Adel Precision Products Corp., has joined Narragansett Machine Co., Pawtucket, R. I., as general manager in charge of sales.

A. A. Kucher, director of research of Bendix Aviation Corp., has been elected a vice president of the company. Kucher is head of Bendix' central research laboratories in Detroit and has charge of investigating and developing new product activities and new business opportunities.

Leopold H. P. Klotz has been elected vice president, treasurer, and a director of Luscombe Airplane Corp. He has been a private pilot for more than 15 years.

O. M. Bell has been appointed director of purchases of Taylorcraft Aviation Corp., succeeding **A. J. Dodge**, resigned. He will continue his former duties as contracts manager and priorities coordinator.

Donald Teetor has been elected vice president in charge of sales of Perfect Circle Co.

W. F. Hogan has been appointed general sales manager of J. A. Tumbler Laboratories, makers of aviation service and maintenance chemical products.

(Turn to page 86)

Are you sure they'll fly today?

BOSTON 7:45
Yes, Mr. Jones..
...we have
SNOGOS on our fields!
Adequate snow removal equipment is assuring to the mind of timid air line passengers. Snogo removes the snow from the runway and when Snogo is through, the job is complete until the next snowfall. No packed layers of snow to freeze into dangerous ruts or thaw into mushy spots. No heavy slush to freeze in wheel pants or be carried into wheel wells. No expensive rehandling—no plowing to condition snow as with rolling methods—no banks to blow back on the runway or endanger wing tips. Snogo keeps 'em flying in any winter weather and remember—one washout pays for a SNOGO!
KLAUER MANUFACTURING CO.
DUBUQUE, IOWA

It's well over 8,000 airline miles from Los Angeles to Calcutta: No small distance even in these days of global air transportation. Yet, surprisingly, flight mileage equal to more than four round trips over this route is the extent of the daily operational flying at the Ryan School of Aeronautics.*

The Ryan School has had 22 years of experience in dealing with the problems of daily flight operations. It already has hundreds of skilled pilots and technicians in its organization. With these assets, it is well equipped to undertake the operation of extensive airline service.

The Ryan School has always looked ahead with confidence in the future of aviation. That is why it now has pending before the Civil Aeronautics Board applications to engage in major airline activities. Ryan's accumulated experience, trained personnel and ample financial resources can serve to bring healthy competition under the Ryan banner into the air transportation field.

Little wonder is it that in its wartime assignment Ryan Schools have produced thousands of American pilots now active on global fighting fronts ... their primary training accomplished on Ryan PT-22's ... their background the smooth-functioning Ryan organization.

**At Army primary training bases at Hemet, California, and Tucson, Arizona*

RELY ON RYAN TO BUILD WELL

RYAN SCHOOLS

RYAN SCHOOL OF AERONAUTICS, SAN DIEGO, CALIFORNIA
OPERATING BASES: HEMET, CALIFORNIA, AND TUCSON, ARIZONA
THE RYAN SCHOOLS ARE SUBSIDIARIES OF THE RYAN AERONAUTICAL COMPANY

WHITE KNOWS TRANSPORTATION *FROM THE GROUND UP*

A DEPENDABLE MEMBER of the "Ground Crew"

UNITED AIR LINES helps to maintain its reputation for service . . ."dependably on time". . . by using the most efficient methods and tools to promote good maintenance. An example is The White Horse, used in many ways to speed service and maintenance operations.

Since the early days of aviation, White Trucks have furnished the "ground link" for air transport . . . and the busy present has found many new ways for trucks to serve aviation's progress.

White is cooperating with a number of aviation firms to solve various phases of their ground transportation problems. Write for any information you need. Your inquiry will receive the attention of men who are interested in aviation's progress and who know "transportation from the ground up."

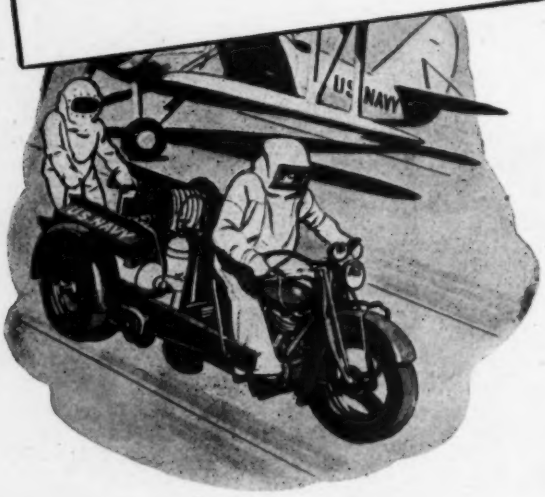
★ White

THE WHITE MOTOR COMPANY • Cleveland

A limited number of new Super Power White Trucks are now being produced for essential services. Your White representative will be glad to help you make application.

FOR MORE THAN 40 YEARS THE GREATEST NAME IN TRUCKS

Motor-bike built for two



Here's an excellent answer to the need of airports for highly-mobile fire-extinguishing equipment. Manned by asbestos-clad firemen and loaded with Kidde carbon dioxide extinguishers, this motorcycle "crash truck" can rush right up to crash fires and other blazes and snuff them out quickly under a blanket of carbon dioxide gas.

Kidde extinguishers are being mounted in many ingenious ways to make their fast fire-killing effect fully available to air fields. They're carried on large emergency trucks, two-wheeled trailers, jeeps — even on "scooters."

If *you* have a fire protection problem — in the air or on the ground — the wide experience of Walter Kidde & Company in this field will be helpful in finding the best solution. Just drop us a line!

Kidde

WALTER KIDDE & COMPANY, INC.,
140 CEDAR STREET, NEW YORK 6, N. Y.

Manufacturing Personnel

(Continued from page 82)

Ralph Wall has been named assistant sales manager of Bendix Aviation Corp., and **W. A. Mara,** formerly with Consolidated Vultee Aircraft Corp, has joined the executive staff of Bendix.

Henry E. Mooberry has been appointed assistant to the president of United Aircraft Corp. He was formerly assistant director of advertising and publicity.

Clarence L. Riegel, former assistant district auditor for General Electric Co. in New York City, has been elected secretary and assistant treasurer of Luscombe Airplane Corp.

L. J. Henderson has been appointed assistant general sales manager of the Weatherhead Co. and **Gene P. Robers** has been named sales promotion manager.

Charles L. Beard, vice president and secretary of Bell Aircraft Corp., has been named to supervise all contract termination procedures, and **Louis Fenn Sperry** has been named a vice president of Bell in charge of financial affairs.

Leonard J. Povey has been appointed to a military training liaison position with Fairchild Aircraft Division. He was formerly vice president in charge of flight operations for Embry-Riddle School of Aviation.

John H. O'Connell has been named manager of public relations for Curtis-Wright Corporation's Propeller Division, succeeding **Samuel S. Tyndall,** who has joined the public relations firm of Hill and Knowlton in New York.

Don A. Imus has been appointed shop superintendent of the Pacific Engineering Corp.

Darwin Adams has been promoted to director of public relations of Interstate Aircraft and Engineering Corp., succeeding **Charles Truman,** who has resigned.

J. A. Lapham, process engineer at Consolidated Vultee Aircraft Corporation's Fort Worth Division, has been named a regional director of the American Society of Tool Engineers.

George R. Pizarro is the manager of Adel Precision Products Corporation's new engineering service office in Rockefeller Center, New York City.

Irving Taylor, eastern representative of Douglas Aircraft Co., is on an extensive air trip through South America.

Harold B. Thomas and **P. J. St. James** have been placed in charge of Cherry Rivet Company's New York territory, and **William B. Rosborough** has been given the Detroit job.

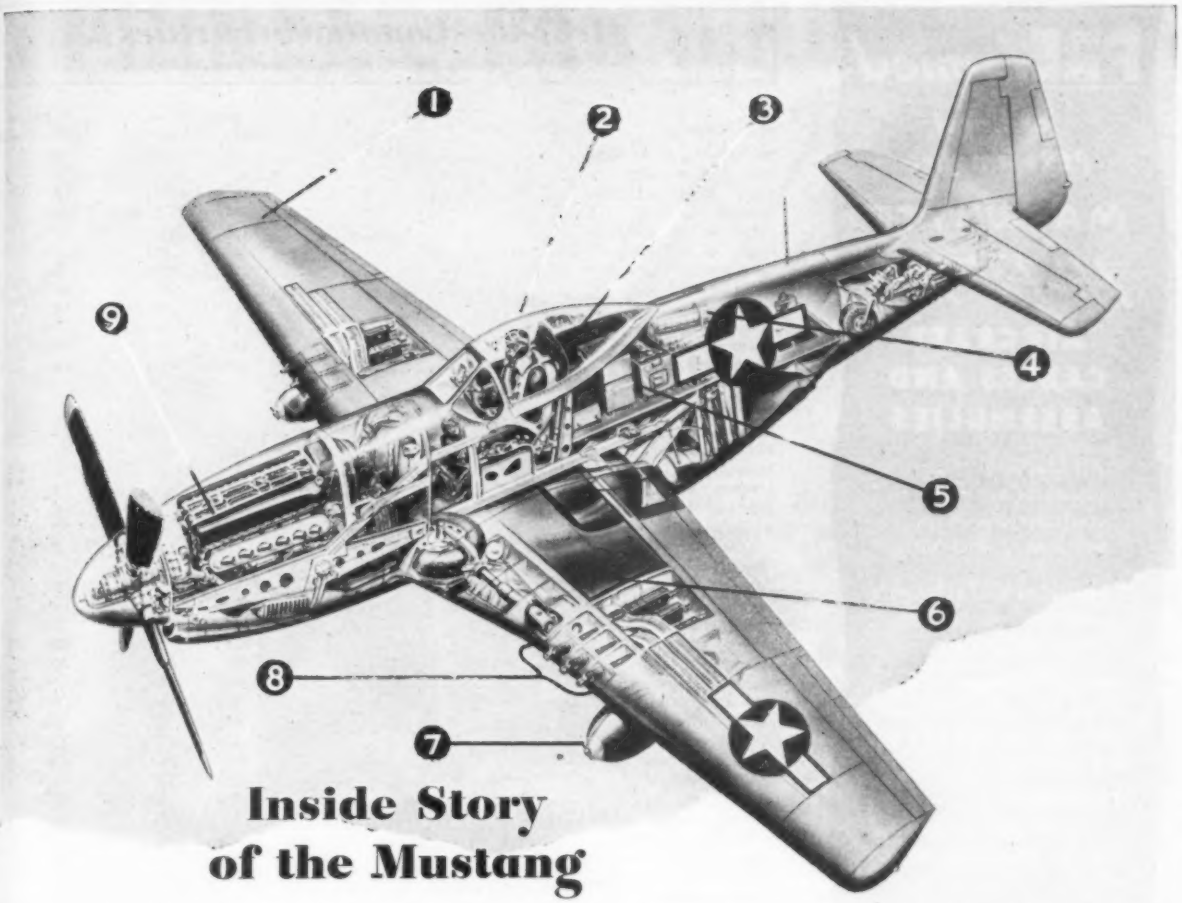
A. B. Johnson, associated with the Cleveland Pneumatic Tool Co. for the past 28 years, has been named plant manager. **Conrad Wallin,** who joined Cleveland Pneumatic in 1940 to assist in plant expansion, has been appointed plant manager of Cleveland Pneumatic Aerol. Inc., a wholly-owned subsidiary.

Rene G. Varlay, assistant contract administrator of Lockheed Aircraft Corp., has been named contract administrator of Jordanoff Aviation Corp.

L. D. Granger, vice president of American Wire Fabrics Corp., has joined the newly formed Wickwire Spencer Metallurgical Corp. as a metallurgist and engineer.

William Todd has resigned as sales engineer of the Weatherhead Company's Los Angeles branch.

William K. Swigert, associated with the Curtiss-Wright Corp. for the past 15 years and the Propeller Division since its founding, has retired. He directed the moving of C-W's Engine Division from Buffalo to Paterson, N. J.



Inside Story of the Mustang

Here are nine reasons why the P-51 Mustang is the most efficient, most deadly, most feared American fighter-plane in enemy skies:

1. **REVOLUTIONARY DESIGN**—laminar-flow super-speed wing.
2. **NO BLIND SPOTS**—full vision cockpit enclosure.
3. **ARMOR PLATE**—this bullet-proof seat back protects Mustang pilots.
4. **FIGHTS EIGHT MILES UPSTAIRS**—these tanks provide oxygen for pilot.
5. **TWO-WAY RADIO**—provides close coordination during missions.
6. **SELF-SEALING GAS TANKS**—an important safety factor in combat.
7. **BOMB LOAD**—1000 pounds under each wing.
8. **DEADLY FIREPOWER**—six .50 cal. machine guns, three in each wing.
9. **SPEED—OVER 425 MPH**—1520 HP supercharged engine and automatic, variable pitch propeller.

BONDS bought these planes.
WASTE FATS helped arm them.
WASTE PAPER helped ship them.
GASOLINE flies them.
WILL YOU help deliver the next squadron?

North American P-51 Mustang Fighter

Unmatched in speed, ceiling and combat radius, Mustangs fight from Burma to Berlin

North American Aviation *Sets the Pace*

PLANES THAT MAKE HEADLINES... *P-51 Mustang fighter (A-36 fighter-bomber), B-25 and PBJ Mitchell bomber, AT-6 and SNJ Texan combat trainer, and the B-24 Liberator bomber. North American Aviation, Inc. Member, Aircraft War Production Council, Inc.*

PREformed

for finest PERformance

MACWHYTE

Hi-Fatigue

AIRCRAFT CABLES AND ASSEMBLIES

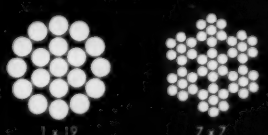
All Macwhyte aircraft products are made to conform to A-N specifications . . . including:

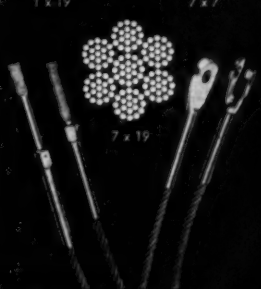
"Safe-Lock" Terminals
. . . in eye end, turnbuckle end, stud end and fork end.

Aircraft Slings
. . . custom-built for your work. Both standard wire rope and braided slings.

Tie-Rods
. . . for internal and external bracing. Streamline, square, round.

"Hi-Fatigue" Cables
in these constructions





MACWHYTE COMPANY
2953 Fourteenth Avenue
Kenosha, Wisconsin

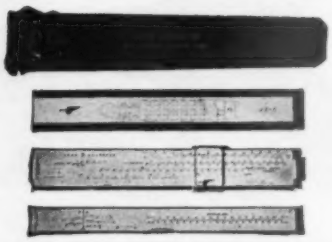
Manufacturers of MACWHYTE "Hi-Fatigue" Aircraft Cables—"Safe-Lock" Cable Terminals — Aircraft Tie-Rods—Braided Wire Rope Slings —and Wire Rope for all requirements.

Over-the-Counter Securities

(Courtesy Merrill Lynch, Pierce, Fenner and Beane)

	Sept. 30		Oct. 7	
AIRLINES	**Bid**	**Asked**	**Bid**	**Asked**
All Amer. Aviation	6⅛	6⅜	6⅜	⅝
Am. Airlines Pfd.	119	121	118	120
Amer. Export Airlines	30	31½	30	31½
Braniff	20⅛	.....	20⅜	.....
Chgo. & Co. common	13⅝	14⅛	14½	15
Chgo. & So. Wts.	5¾	6¼	6¼	7⅛
Continental Airlines	9¾	10½	9¾	10½
Delta Air	27½	29½	26½	28½
Inland Airlines	4	4¾	4	4⅝
Mid-Continent	7⅜	8	7¾	8
National	15	15½	15¾	16
Northeast Airlines	10¼	10¾	10¼	10⅝
MANUFACTURERS				
Aeronca	5¾	6¼	4½	5
Air Assoc.	10	.....	12	.....
Aircraft & Diesel	1¼	⅝	1⅜	1⅝
Aircraft Accessories	5½	.....	7¼	.....
Airplane & Marine	5	½	5	½
Airplane Mfg. & Supply	1.05	1.20	1.15	1.30
Central Airports	⅝	⅞	⅝	⅞
Columbia Aircraft	⅛	½	⅛	½
Continental Aviation	3	3⅜	3	3⅜
Delaware Aircraft pfd.	⅛	.....	⅛	.....
General Aviation Equipment	1	1¼	1⅛	1⅜
Globe Aircraft	95c	1.10	95c	1.10
Harlow Aircraft	20c	35c	20c	35c
Harvill Corp. common	1¾	2	1¾	2
Interstate Aircraft & Eng.	9⅛	9½	9⅜	9¾
Jacobs Aircraft	3½	.....	3⅝	.....
Kellett Aircraft	1½	1⅞	1½	1⅞
Kinner Motors	70c	80c	70c	80c
Liberty Aircraft	10¼	10⅝	10¼	10⅝
Luscombe	1½	1¾	1½	1⅞
Menasco Mfg.	1	1¼	1⅛	1⅜
Northrop Aircraft	5⅜	6	5⅞	6¼
Piper Aircraft common	4	4¼	4	4¼
Piper Aircraft pfd.	39	42	39	42
Pitts. Aviation Ind.	¼	.....	¼	.....
Rohr Aircraft	6¾	7	6⅝	6⅞
Std. Aircraft Prod.	60c	80c	60c	80c
Taylorcraft common	2⅜	2⅞	2⅜	2⅞
Taylorcraft pfd.	6	6¾	6	6¾
Timm	35c	45c	35c	45c
Utd. Aircraft Prod. pfd.	15¾	16½	15¾	16½

Aircraft **Computers**



LOAD ADJUSTER

This instrument is used in the operation of multi-placed commercial and military airplanes, for quickly and accurately determining the proper loading of an airplane for safe and efficient balance during flight. Each load Adjuster is especially designed for a particular airplane model.

COX AND STEVENS AIRCRAFT CORPORATION

P. O. Box 30 Mineola, N.Y.

PIONEER PARACHUTE CO.

is Ready!

There will be no need to wait for dependable, foul-proof Pioneer Parachutes when peacetime aviation gets the green light. Indeed, Pioneer Parachute Company — originators of a long line of advancements in parachute design and research — is ready *now* to supply civilian flying with the same thoroughness and efficiency with which it is serving the Army and Navy. Pioneer Parachutes will go far to encourage the widest possible acceptance of aviation in the coming tremendous expansion in air travel. Look to Pioneer Parachute Company for safer, lighter, stronger, more comfortable parachutes. Pioneer is ready *now* and is leading the way.

PIONEER PARACHUTE MODEL P3-B

Safer, more positive action. Comfortable, with 50% less seat space and 20% less weight, without sacrifice of strength. P3-B is accepted as standard equipment by U. S. Army and Navy. Equipped with fool-proof, foul-proof, pilot chute.

Home of Pioneer Parachute Company where designing and testing, weaving and manufacturing, from the raw product to the finished parachute, are all coordinated within one company.

CHENEY *fabrics*

PIONEER PARACHUTE COMPANY, INC.

MANCHESTER, CONNECTICUT, U. S. A.

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WEST COAST FACTORY BRANCH, 109 SOUTH CENTRAL AVENUE, GLENDALE 4, CALIFORNIA

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a complete line of OTTO AVIATION EQUIPMENT

Now Available!

GENERAL TIRES—These famous aircraft tires are built to stand up under the hardest usage. Designs are laboratory tested, are the result of long and painstaking research. Proven in use with the Army, Navy, and Airlines, General Tires for aircraft of all types meet the needs of any operator.

FAHLIN PROPELLERS—Designed for increased efficiency, Fahlin propellers are built to C.A.A. specifications and carry approved type certificates. Built for engines ranging from 40 to 250 H.P., they deliver maximum possible thrust without excessive RPM's.

SCOTT TAILWHEELS — Built for strength and durability, these well-known interchangeable, steerable and full-swivel tail-wheel assemblies fit Aeronca, Cub, Culver, Luscombe, Monocoupe, Rearwin and other light aircraft equipped with spring leaf skids.

READING AIRCRAFT BATTERIES—For many years the engineering staff of Reading Batteries, Inc. has followed closely the battery rquirements of the aviation industry. Today Reading Aircraft Batteries, of the lead-acid, non-spill type, are used by the world's greatest aircraft producers. Also available: Reading "Terminal Cart" Diesel Engine Starting Batteries.

also Randolph Aircraft Finishes . . . Plasticlear Cleaner . . . Roebling Products

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90° TAB CONTROL DRIVES

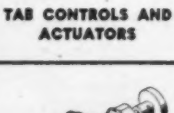
RIGHT ANGLE DRIVES

TAB CONTROLS AND ACTUATORS

TORQUE TUBE DRIVES

FLEXIBLE SHAFT AND CASE ASSEMBLIES

SPROCKET DRIVES



HYDRAULIC VALVES

POTTER QUICK DISCONNECTS

Aviation OTTO Corporation

BLOOMFIELD NEW JERSEY

141 Dealers in 12 Eastern States

Edgar M. Gott Resigns From Consolidated Vultee

Maj. Edgar M. Gott, widely known in the aviation industry for 29 years, has resigned as assistant to the president of Consolidated Vultee Aircraft Corp. Major Gott will take a short vacation before engaging in work vital to war production.

Gott

He went to San Diego, Cal., as vice president of Consolidated Aircraft in 1935, remaining as assistant to the president when that company merged with Vultee in 1943. His aircraft experience has included positions as president of Boeing, vice president of Fokker, and president of Keystone Aircraft Co.

John Lee Named Head Of Menasco Company

Election of John C. Lee, formerly manager of Aircraft War Production Council, West Coast, as president of the Menasco Manufacturing Company is announced by the board of directors. Lee succeeds John E. Royal who resigned because of ill health. Robert R. Miller, executive vice president and an officer of the company for the past four years, will continue in that capacity, the board stated.

Lee said that the company's program calls for continued concentration on war production and projection of Menasco strongly into postwar fields of aviation and non-aviation products. The company, he said, is making full use of market research studies, and its own product development facilities.

H. R. Bazley Reelected Head Of All American Aviation

Stockholders of All American Aviation, Inc., at their annual meeting elected the following directors: Halsey R. Bazley, Charles F. Benzel, W. Sam Carpenter III, Frank M. Donohue, Mrs. Richard C. du Pont, and Charles W. Wendt of Wilmington, Del., and Arthur P. Davis, George S. Leisure and David Rawson of New York City.

At a meeting following the stockholders meeting the directors reelected the officers of the company for the ensuing year. The officers are: President, Halsey R. Bazley; Vice President—Traffic, Harry R. Stringer; Vice President-Treasurer, Charles W. Wendt; Vice President—Manufacturing and Development, Edward E. Minor, Jr.; Secretary and General Counsel, Austin M. Zimmerman; Assistant Secretary, Frank J. Trelease, Jr.; Assistant Treasurer, Harry S. Fries, Comptroller, Walter C. Gebelein.

Mark of *Dependability*
Shield of *Protection*

Breeze Radio Ignition Shielding Guards Radio Communications Against Natural and Man-made Interference

The Breeze Mark on Radio Ignition Shielding has for sixteen years been a mark of dependability, symbolizing the quality workmanship and engineering skill that has gone into every Breeze Shielding Harness. Designed for use on hundreds of different types of engines, this shielding has been developed by Breeze engineers to eliminate the radiation or absorption of high frequency interference in radio communications. In addition to this important function, durable protection is afforded to secondary wiring systems by Breeze Flexible Shielding Conduit, which guards against moisture, corrosion and abrasion.

Now in service aboard aircraft, ships and tanks of Allied Liberation forces, this equipment is the result of years of Breeze experience in the field. With its unequalled background of research and production, Breeze has acquired the knowledge and ability required to solve any shielding problem.

A Few of the Many Breeze Products in the Nation's Service

- Radio Ignition and Auxiliary Shielding
- Multiple Circuit Electrical Connectors
- Flexible Shielding Conduit and Fittings
- Cartridge Engine Starters
- Internal Tie Rods
- Elevator and Rudder Tab Controls
- Flexible Shaft and Case Assemblies
- Aircraft Armor Plate

Breeze BREEZE MARK
CORPORATIONS, INC. NEWARK, N. J.

PRODUCTION FOR VICTORY • PRODUCTS FOR PEACE

Research
ENGINEERING
IN

- COMPLETE SALES TRAINING PROGRAMS
- AVIATION RESEARCH BUREAU—A Clearing House of Information
- AIRCRAFT DISTRIBUTOR FRANCHISE PLAN
- RENEGOTIATION OF WAR CONTRACTS
- SURVEYS AND MARKET ANALYSIS

★

We invite your inquiry

AVIATION ASSOCIATES
Consultants to the Industry
664 N. MICHIGAN AVE., CHICAGO 11, ILL.

Bell Aircraft Writes Finis To Production Saga of P-39

THE LAST P-39 Airacobra to come off the line at Bell Aircraft Corp. has arrived in Russia, according to an announcement approved by the War Department.

It was just five years ago September 13 that the Army awarded Bell its first P-39 contract, calling for 20 of the cannon-carrying fighters. Bell was in production on a modest scale when the Jap attack on Pearl Harbor catapulted the United States into war, but it wasn't until early in 1942 that Airacobra production went into its first fast tempo.

Bell has built 9,584 Airacobras, almost 9,000 of which were delivered in slightly more than two years. During the early part of this year, P-39 schedules tapered off gradually in the face of the ever-increasing presence of P-63s on the lines.

4th Anniversary in Combat

This month Bell-built planes celebrate the fourth anniversary of their combat baptism. Early in October, 1941, two months before Pearl Harbor, the Royal Air Force used Airacobras on sweeps across the English channel and on bomber escorting missions over occupied Europe.

Since then, P-39's have performed with distinction around the world. They have battled the Japs from Kiska to the 'Canal, from Moresby to Makin. The Nazis have felt their guns in North Africa, in Italy, in France and on the far reaches of the Eastern Front. They have patrolled the air above Iceland and protected the approaches to the Panama Canal.

With depth charges slung to their bellies, P-39s have gone Jap-hunting in Pacific jungles, sub-hunting off the rocks of Ascension Island. They have turned auxiliary gas tanks into incendiary bombs by dropping them on enemy shipping and have reversed the order to drop life rafts to pilots forced down at sea.

Performing best at altitudes up to 16,000 feet, but able to go higher and fight hard, the P-39 has been an effective allied weapon as a dive bomber and a skip bomber. The punch it packs with its 37mm cannon in the nose and .50 caliber machine guns in the nose and wings has filled its combat log with an imposing array of downed enemy aircraft, demolished tanks, shattered bridges and sunken shipping.

One of the earlier Airacobra squadrons which landed at Pt. Moresby early in 1942 to help turn the tide of the battle of New Guinea and keep the Japs away from Australia, shot down 138 Jap planes with 45 probables in its first year of action.

P-39s were the first Army fighter planes on Guadalcanal. They threw everything in the fighter pilot's book at the Japs—sunk their ships, shot up their installations and when everything else failed, dropped depth charges to kill deeply entrenched Japs by concussion. In the closing stages at Guadalcanal, Airacobras were reported to have cut anticipated infantry losses by 90 per cent through use of strafing and bombing tactics.

In '43 when Rommel was pushing the Allies back in North Africa, P-39s slowed down advancing Nazi columns by strafing at tree-top level, a type of aerial warfare considered the most hazardous. The P-39s followed the Allies into Italy, serving as bridge busters and destroyers of enemy installations and supply lines.

Russia has received approximately 5,000 Airacobras, more than half of the military planes lend-leased to the Soviet. The story of the Reds' use of the P-39 has never been fully told, but some indication of the success of the fighter-bombers may be gleaned from the record of just one of the many Russian squadrons flying P-39s.

Russian P-39 Squadron Excels

Nine members of this squadron have shot down 270 enemy aircraft. Four of the pilots have better records than any of the leading American or British aces and one, Col. Alexandre Pokryshkin, is the Allies' leading ace. At last reports he had accounted for 59 enemy planes, 48 downed while he was flying a P-39.

The evolution of the Airacobra brought out a score of models, each a change or improvement over the last. Now, the production saga of the Airacobras has been written. The last rivet has gone into the last P-39, but the last returns of this fighting plane are not yet in.

B-H
MANUFACTURERS OF SHEET METAL AND TUBULAR ACCESSORIES
PROPELLER CUFFS
CONTRACTORS TO ALL LEADING ENGINE AND PROPELLER MANUFACTURERS
B-H AIRCRAFT CO., Inc.
LONG ISLAND CITY 1, N. Y.

WORLD'S PREMIER AIRPLANE FABRIC
LIGHTER
STRONGER
SMOOTHER
FLIGHTEX
FLIGHTEX FABRICS, INC. • 93 WORTH ST. • NEW YORK 13, N. Y.
Leading Manufacturers of Fabric and Tapes for the Aircraft industry.
FLIGHTEX FABRIC
Export Representative
AVIQUIPO, Inc.
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Cable Add.: 'Aviquipo'

More output per pound

with this line of 28.5-volt d-c generators for aircraft

Fighters and bombers need lots of electrical power—but they watch their weight like a beautiful woman. Yet the design of electrical apparatus for aircraft must consider more than just weight reduction—there are factors of vibration, cooling, and brush wear that must be met.

The five d-c generators shown at right represent the range of Westinghouse units that are meeting this exacting service. Their weight-output ratio is exceptionally favorable.

FOR EXAMPLE:

TYPE	AMPERES	SPEED	WEIGHT
C-4	100	4000/8000 rpm	23 lbs.
C-1	100	2500/4500 rpm	33 lbs.
F-2	200	4000/8000 rpm	37 lbs.
F-1	200	2500/4500 rpm	44½ lbs.
B-1	300	4400/8800 rpm	48¼ lbs.

Westinghouse started in the aviation field in 1917, building the first wind-driven, high-frequency alternators for World War I aircraft radios. These 27 years of experience in designing and manufacturing electrical equipment for aircraft constitute a sound reason for making Westinghouse your working partner in aviation progress. Westinghouse Electric & Manufacturing Company, Small Motor Division, P.O. Box 868, Pittsburgh 30, Pa.

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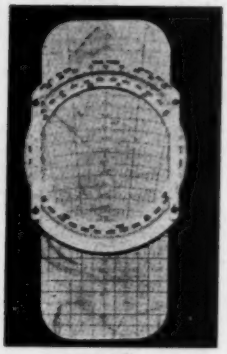

Dalton Aircraft Navigational Computer E-6B (shown above). With leather case and 23 page instruction booklet. Standard with U. S. Air Forces $10.00

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Lyon Computer (U. S. Geodetic Survey Type) ..	$3.00
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Gillmer Computer	3.00
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Learning to Navigate	2.00
Navigation Watch, second-setting wrist model (Longines)	65.00

Other Weems instruments & texts listed below:

Short History of Navigation (Branch & Brook-Williams)	$1.50
Navigation Notebook and Plotter (Weems)	3.60
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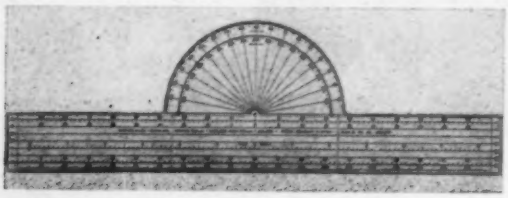
Star Altitude Curves (Weems) Per 10° Lt. band	5.00
Instrument Flying (Weems & Zweng)	4.00
Illyne Star Chart	1.00
Line of Position Book	1.50



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Egtvedt Temporary President Of Boeing Aircraft Company

Claire L. Egtvedt, chairman of Boeing Aircraft Co., has been requested by the board of directors to assume the duties of president temporarily, as a result of the death of President P. G. Johnson. Egtvedt is a former president of the company, having preceded Johnson. The directors have not announced when a permanent successor will be chosen.

Egtvedt

Egtvedt, 51, joined Boeing as an engineer in 1917, the same year Johnson entered the company's employ as a draftsman. He rose to assistant chief engineer during the first year, chief engineer in 1918, secretary in 1922, vice president and general manager in 1926, president in 1933, and chairman of the board in 1939. Like Johnson, he graduated from the University of Washington in 1917.

Public Relations as Related To Cutbacks and Termination Discussed by Kindelberger

J. H. "Dutch" Kindelberger, president of North American Aviation, in a recent Los Angeles address on public relations as related to cutback and termination problems outlined a seven point program for participants in an executive conference sponsored by the National Association of Manufacturers.

His program includes:

1. It is essential that plans be made for the inevitable termination and cutback of all war contracts.
2. It is necessary for the prime contractor to make it clear to everyone concerned that he is not responsible for the termination of contracts.
3. When the prime contractor is sure of the facts concerning the effects of termination he must get them out fast and to the right people first.
4. All major decisions concerning policies and procedures must be coordinated with the local organizations and agencies concerned.
5. It is necessary to find out what vitally concerned groups are thinking about before it is too late to do something about it.
6. It is desirable to determine what the important public relations elements are and then to plug these elements in every communication to those concerned as well as to the public.
7. We must all realize that war production is not an end in itself.

Professor Aids Douglas

Dr. M. V. Barton, professor of aeronautical engineering at the University of Texas, is on leave until Nov. 1 to participate in a co-operative program with the Douglas Aircraft Co. in engineering research, centering on structures, vibration and flutter. The program represents an effort to provide closer relationship between industry and education.

BUNYAN STRIDES
Measure the wood industry of the West

Were Paul Bunyan to stride the world today, even he would be amazed at the size and scope of the West's great wood industry—an industry that, in the folklore of the American people, he sired. For today, 40 per cent of the nation's wooded area is in the West. Include Alaska, and the figure jumps to 75 per cent. Over 40 per cent of all lumber comes out of the Western forests.

The war has pushed the lumber industry years ahead in technological developments and in the utilization of its products. And, lumber is only a part of the bulging economy of the new industrial West—a West in which many resources are being converted to finished products for the first time. Because of the great distances in the West, all industry is far-flung. So, it has special need for the speed and accessibility of the airplane. Western Air, the West's own Airline, will exert every effort now and in the air world that is coming, to bring the air traveler and shipper the finest air transportation.

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Manufacturing Roundup

New Gunsight 'Brain'

New gyroscopic gunsight "brains", which automatically "lead" enemy planes traveling at more than 400 mph., at ranges of more than 400 yds. and at much higher angles of deflection than was possible previously, are in mass production at Bendix Aviation Corportion's Eclipse-Pioneer Division's plant at Teterboro, N. J. The new "lead computer", which Bendix and the Eastman Kodak Co. jointly adapted for mass production, is the American version of the British "Mark II-D" device, which in the last six months has enabled the RAF to double its destruction rate of German planes.

Southwark Exhibit Planned

Southwark Testing Machine Division of The Baldwin Locomotive Works announces that under sponsorship of the American Society for Metals, it will arrange an elaborate showing of the latest mechanical and electronic aids for precision testing of metals, plastics and other materials used in aircraft production and other lines of manufacture at the Cleveland Metals Show Oct. 16-20.

Financial Notes

EASTERN AIR LINES earned a net profit of $438,413, or 74c per share, in the first six months of 1944 as compared with $637,454, or $1.08 per share, in the same period of 1943. Provision was made for Federal income and excess profits taxes in both periods.

CONSOLIDATED VULTEE AIRCRAFT CORP. directors have voted to declare a dividend of 50 cents a share on common stock, payable Nov. 15 to stockholders of record Nov. 3. The regular quarterly dividend of 31¼ cents a share on preferred stock was declared, payable Dec. 1 to stockholders of record Nov. 17.

RYAN AERONAUTICAL CO. reports earnings for the six months ended April 30 of $348,151, compared with $597,313 for the full fiscal year ended Oct. 31, 1943. "The rate of production during the current fiscal year," reported T. Claude Ryan, "has shown a substantial increase over the prior fiscal year in both the airplane and exhaust systems manufacturing divisions. Revenue from manufacturing operations for the first half of the 1944 fiscal year was $16,270,427, closely approaching the $19,705,524 gross for the prior 12 months."

Air Associates' Net $582,648

A renegotiation agreement recently executed covering operations of Air Associates, Inc., Teterboro, N. J., for the fiscal year ended Sept. 30, 1943, provided for a gross refund of $1,991,776 and a net refund of $444,261. This was after deduction of the applicable credit for Federal taxes, the effect of which was to reduce net profit for the year before Federal taxes by $1,991,776 to $2,044,974.59, and to reduce net profit after taxes by $552,902.04 (including elimination of postwar refund) to $582,648.

The revised net profit of $582,648 is equivalent to $4.32 per share on the 134,905 shares of the company's capital stock outstanding. This compares with earnings of $3.32 per share on the same capitalization for the preceding fiscal year ended Sept. 30, 1942.

40,000 Cyclones Scheduled

More than 40,000 Cyclone 18's will be ma within the next 15 months to power B-2 attacking Japanese industry, Col. J. M. G lespie, deputy chief of engineering and pu curement of the Air Technical Service Co mand recently told thousands of workers the Wood Ridge, N. J., plant of Wright Aer nautical Corp., where the 2,200 hp. engines a produced.

New Planes Have Hamiltons

Hamilton Standard Propellers, Division United Aircraft Corp., announces that following new airline planes will use Ham ton Standard Hydromatic propellers: Dou las DC-4 and DC-6, Lockheed Constellati Consolidated Vultee's Model 39, Glenn L. Ma tin's Model M-202, Fairchild Packet, and other projected passenger and cargo-carryi planes, still in the planning stage."

'Commandos' Shed Paint

Camouflage paint is being eliminated fro the C-46 Commando planes that are movin off the assembly lines of Curtiss-Wright Cor plants in Buffalo, N. Y., and Louisville, Ky Removal of the paint reduces the weight o each plane from 75 to 100 lbs., C-W reports

Elastic Stop Nut Curtailment

Elastic Stop Nut Corp. announces it will cu its force by 25% because of production cu backs. Most of the company's products hav been going into the aviation industry.

Hamilton to Close Darlington

Hamilton Standard Propellers, United Aircraft Corp., announces it will close its Darlington branch plant by the end of 1944 and move production to its East Hartford and Norwich, Conn. plants.

Columbia Gets Contract

Columbia Aircraft Industries, Portland, Ore. has received a new contract to produce aircraft parts which will keep its 1,000 employes working at top speed until 1946.

G E to Build Plastic Parts

General Electric Co. announces plans to build a postwar plant at Anaheim, Calif., for the manufacture of plastic parts for airplanes.

Classified

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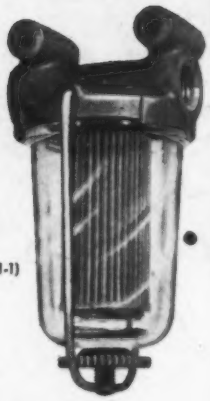

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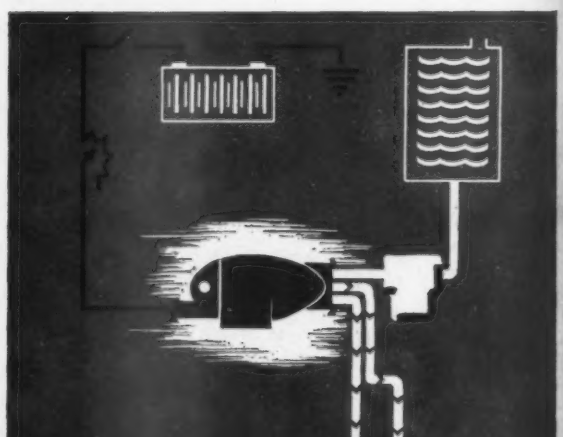
● ADEL'S New Micronic Midget Filter (AN 6101-1) is recommended for installation along with every ADEL Series "K" Fluid Metering Pump. This improved filter weighs only 4.8 oz., measures only 2" x 2"x 4", yet has a filtering area of 36 square inches. Will remove particles as small as 5 microns, thus affording complete protection for the anti-icing system.

● Schematic drawing shows typical installation of propeller anti-icing system AN 6100-3 including ADEL Series "K" Fluid Metering Pump (AN 6100-1), ADEL Filter (AN 6101-1) and Rheostat (AN 3155-50-30). While individual units are sold separately for replacement purposes, it is suggested that purchasers of new equipment select the complete kit for utmost satisfaction. Also widely used for anti-icing protection of carburetors, windshields, radio masts and pitot tubes. Pumps many light industrial fluids. Veteran of 7 years global service under every conceivable condition. Over 100,000 now in use. Write today for descriptive brochure.



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